IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

MATCH GROUP, LLC	§	
	§	
	§	
Plaintiff,	§	
	§	**No. 6:18-cv-00080-ADA**
v.	§	
	§	
BUMBLE TRADING INC., and BUMBLE HOLDING, LTD.	§	**JURY TRIAL DEMANDED**
	§	
Defendants.	§	
	§	
	§	

PLAINTIFF MATCH GROUP, LLC'S THIRD AMENDED COMPLAINT

I. INTRODUCTION

Match Group, Inc. is the worldwide leader in online dating, with multiple popular brands of matchmaking services, including Match, Plenty of Fish, OkCupid, and more. Plaintiff Match Group, LLC, a wholly-owned subsidiary of Match Group, Inc., owns Tinder and its related intellectual property. Tinder is one of Match's flagship brands. When released, it launched a cultural revolution in social networking and online dating. Tinder is famously characterized by a stack of cards containing photographs of potential matches nearby. If a user is interested in the person shown, the user drags a card to the right. If not, the user drags the card to the left. If two users are interested in each other, a match has been made, and the users are permitted to communicate with one another through the app. The app has become so well-known that an entire generation is often described as the "Tinder generation."

Match, through Tinder, spent significant time and effort developing and implementing the inventions embodied in versions of the Tinder app and claimed in a recently issued utility patent. Match, through its Tinder team, has spent significant time and money advertising the

Tinder brand, including Tinder's unique draggable-card-based design. And Match has also spent significant time and money on confidential internal research and development, including brainstorming potential feature roll-outs. As a result of all of these efforts, Match has significant intellectual property rights related to the Tinder application and the Tinder brand. This is a case about infringement and misappropriation of that intellectual property.

Bumble, founded by three ex-Tinder executives, copied Tinder's world-changing, draggable-card-based, mutual opt-in premise. As acknowledged by third-party publications upon its release, Bumble is "virtually identical" to Tinder in its functionality and general look-and-feel. The competitive reason is obvious. Bumble sought to mimic Tinder's functionality, trade off of Tinder's name, brand, and general look and feel, meet user expectations that Tinder itself and its brand created, and build a business entirely on a Tinder-clone, distinguished only by Bumble's women-talk-first marketing strategy. Compounding matters, Bumble has released at least two features that its co-founders learned of and developed confidentially while at Tinder in violation of confidentiality agreements. All of these actions infringe upon Match's valid and enforceable intellectual property rights.

To be clear, this case is not about any Bumble personnel's personal history with anyone previously at Tinder. This case is not about feminism or a business marketed based on feminist themes; Match applauds Bumble's efforts at empowering women, both in its app and offline, and Match cares deeply both about its women users and about women's issues generally. Rather, this case is simply about forcing Bumble to stop competing with Match and Tinder using Match's own inventions, patented designs, trademarks, and trade secrets. Match brings this complaint to stop Bumble's unlawful use of this intellectual property.

II. THE PARTIES

1. Plaintiff Match Group, LLC ("Match") is a Delaware Corporation with a principal

place of business in Dallas, Texas at 8750 N. Central Expressway, Suite 1400.

2. Bumble Trading Inc. ("Bumble") is a Delaware corporation with a principal place of business at 1105 W 41st St., Austin, TX 78756.

3. Although Bumble Trading Inc. continues to conduct business in Texas, as of the date of filing this complaint, Bumble has failed to comply with Texas's franchise tax laws.

4. As of March 16, 2018, Bumble Trading Inc. forfeited its charter and corporate privileges under Section 171.309 of the Texas Tax Code.

5. Bumble Holding, Ltd. is a corporation existing under the laws of the United Kingdom with a principal place of business in London, United Kingdom.

III. JURISDICTION AND VENUE

6. This Court has personal jurisdiction over Bumble Trading Inc. and Bumble Holding, Ltd. consistent with the requirements of the Due Process Clause of the United States Constitution and the Texas Long Arm Statute. Bumble[1] conducts business, maintains an established place of business, and has committed acts of patent infringement and/or has induced and/or has contributed to acts of patent infringement by others in the Western District of the Texas, the State of Texas, and elsewhere in the United States. In addition, Bumble's headquarters and principal place of business is located in Austin, Texas, within the District. This Court has original subject matter jurisdiction over Match's claims for patent infringement pursuant to the Federal Patent Act, 35 U.S.C. § 101 *et seq.* and 28 U.S.C. §§ 1331 and 1338(a). This Court has original subject matter jurisdiction over Match's federal trade secret claim pursuant to 18 U.S.C. §§ 1836-39 *et seq.* ("Defend Trade Secrets Act") and 28 U.S.C. §§ 1331 and 1343. The Court also has supplemental jurisdiction over the state law claims pursuant to

[1] As used in this document, reference to "Bumble" should be understood to include both Bumble Trading Inc. and Bumble Holding, Ltd. unless referring to the Bumble app itself.

28 U.S.C. § 1367.

7. Venue is proper in this District for Bumble Trading Inc. under 35 U.S.C. § 1400(b) because Bumble Trading Inc. has a regular and established place of business in Austin, Texas and has committed acts of infringement in the District by making, using, and selling the Bumble app in the District. Venue is also proper as to Bumble Holding, Ltd. because it is a foreign company and is thus not subject to the patent venue statute in 35 U.S.C. § 1400(b) and is otherwise amenable to valid service of process and personal jurisdiction in this district. To the extent that Bumble Holding, Ltd. is not a wholly foreign company and is subject to the provisions of 35 U.S.C. § 1400(b), venue is proper because it has a regular and established place of business in Austin, Texas and has committed acts of infringement in this district by making, using, and selling the Bumble app in the District.

8. Venue is also proper for Match's remaining claims against Bumble under 28 U.S.C. § 1391 because Bumble resides in the District, has its principal place of business in the District, is subject to personal jurisdiction in this District, and a substantial part of the events or omissions giving rise to the claim(s) occurred within the District.

9. The Waco Division of the Western District of Texas is convenient for both parties. The Waco Federal Courthouse is less than 100 miles as the crow flies from both Bumble's Austin-based headquarters and Match's Dallas-based headquarters.

10. Match also has a significant server deployment in the Waco area.

11. Bumble, meanwhile, employs at least four people at Baylor University. One campus director, along with three campus ambassadors, plan events on and around the Baylor campus to promote the Bumble app amongst Baylor University students.

IV. FACTUAL ALLEGATIONS

A. The Creation of Tinder

12. The Tinder app was first conceived at and created by "Hatch Labs," a technology incubator owned by Match's ultimate parent company, IAC/InterActive Corp ("IAC"). Sean Rad, Justin Mateen, Jonathan Badeen, Joe Munoz, Chris Gulczynski, Whitney Wolfe-Herd, and others formed the early Tinder team that conceived, designed, developed, and conducted initial marketing efforts for the Tinder app.

13. Chris Gulczynski's position as Tinder was "Lead Designer" or "Chief Creative." Gulczynski was integral in designing the general look and feel of the earliest iterations of the Tinder app.

14. Whitney Wolfe-Herd's position with Tinder was "Vice President of Marketing." She assisted in promoting the app and encouraging users to sign up in the app's early days.

15. Sarah Mick joined Tinder in 2013, after Tinder's initial launch. Mick's title was "Vice President of Design" and she assisted Gulczynski on various design aspects of the Tinder interface.

16. First officially released in September 2012 for iPhone devices, Tinder revolutionized online dating services. From its earliest days, the premise of Tinder has been fundamentally the same. Tinder users are shown other users ("potential match(es)") based on certain parameters, including age range and geographic location. The user is shown a card with a photo of a potential match nearby. The user is then given a choice to indicate interest (or lack thereof) in the potential match merely by swiping the card right (if interested) or left (if not). Although the earliest iterations of Tinder did not include the ability to gesture left or right, once implemented, "swiping" on Tinder became a cultural sensation uniquely associated with the app.

17. Tinder is now one of the most popular apps in the world.

B. Match's Tinder-Related Intellectual Property

18. Match has been awarded a utility patent, U.S. Patent No. 9,733,811 (the "'811

Patent"), entitled "Matching Process System and Method," in connection with the functional innovations embodied in versions of the Tinder app. The '811 Patent is attached as Exhibit A.

19. Match has been awarded another utility patent, U.S. Patent No. 9,959,023 (the "'023 patent"), entitled "Matching Process System and Method," in connection with other innovations embodied in the Tinder app. That patent issued at 12:00 AM EDT on May 1, 2018, or 11:00 PM CDT on April 30, 2018. The '023 Patent is attached as Exhibit B.

20. Match has been awarded another utility patent, U.S. Patent No. 10,203,854 (the "'854 patent"), entitled "Matching Process System and Method," in connection with other innovations embodied in the Tinder app. That patent issued at 12:00 AM EDT on February 12, 2019, or 11:00 PM CDT on February 11, 2019. The '854 Patent is attached as Exhibit C.

21. Match also has a federally registered trademark, Reg. No. 4,465,926, for SWIPE in connection with computer application software for mobile devices, namely, software for social introduction and dating services. Tinder first used this mark in commerce on or around March 28, 2013. The registration for Tinder's SWIPE mark is attached as Exhibit D.

22. Match is also currently seeking federal registration for SWIPE LEFT and SWIPE RIGHT in connection with mobile applications for social introduction and dating services.

23. Match also has common-law trademark rights. For example, Match, through Tinder, has used the marks SWIPE LEFT and SWIPE RIGHT in connection with mobile applications for social introduction and dating services nationwide. It first used these marks in commerce on or around March 28, 2013.

24. SWIPE, SWIPE LEFT, and SWIPE RIGHT have become synonymous with the Tinder app.

25. For example, the Telegraph listed "swipe" as a 2015 "word of the year," writing

that its choice "reflect[ed] the popularity of the dating app Tinder, in which users can swipe their finger across the screen to approve or dismiss would-be dates."

26. The English Oxford Dictionary also specifically defines the terms "swipe right" and "swipe left" in connection with the Tinder brand:

> **Phrases**
> **swipe right (or left)**
> *informal* (on the online dating app Tinder) indicate that one finds someone attractive (or unattractive) by moving one's finger to the right (or left) across an image of them on a touchscreen.
> *'I swiped right, but sadly for me, she swiped left'*

27. The English Oxford Dictionary also indicates that "swipe right (or left) of dating app Tinder fame" was consistently one of the dictionary's most "popular look-ups" in 2017.

28. Similarly, a recent episode of the game show "Jeopardy" indicated that SWIPE LEFT and SWIPE RIGHT were trademarks of the Tinder app.

29. Indeed, Tinder's wordmarks have been famous since before Bumble even existed. For example, in a February 2014 article in TIME Magazine, TIME described the "swipe" in Tinder as "iconic."

30. Similarly, in February 2015, a CIO.com article described Tinder's SWIPE RIGHT as a "trademark" of Tinder.

31. In fact, the Atlanta Hawks, in connection with Tinder, hosted a highly publicized "Swipe Right Night" at an Atlanta Hawks game in January 2015, reflecting the then-existing fame of the mark.

32. Match, through Tinder, also has legally protectable trade dress. For example, the ornamental design claimed in US D798,314 is a non-functional design element with source-identifying significance, either because it is inherently distinctive or has acquired secondary meaning.

33. Match, through Tinder, regularly advertises this design, showing a user's card in the process of a "swipe right" or "swipe left."

34. Third-party Internet publications have recognized that this design is synonymous with Tinder, describing the "Tinder swipable cards interface" as "famous" and as taking "the app store by storm."

35. This card-stack interface has also been described as "iconic."

36. Indeed, this card-stack interface is so well-known and iconic that, when other businesses use similar interfaces in connection with non-social network, non-dating apps, third-party publications describe such uses as making the app look like Tinder.

37. As reflected by the United States Patent and Trademark Office's decision to grant the '314 Patent, this design is non-functional.

38. Similarly, Match has protectable trade dress in its "It's a Match!" screen, shown below:

39. As with the card-stack interface, this screen has distinctive trade dress source-identifying significance.

40. Match, through Tinder, also regularly uses this screen as a source-identifier in various advertising materials, including in the Apple App Store, the Google Play Store, and on YouTube.

41. Finally, Match, like most companies, has trade secrets related to confidential business planning and research and development efforts.

42. Match Group, LLC owns all rights to the intellectual property identified above.

C. Whitney Wolfe-Herd, Chris Gulczynski, and Sarah Mick Leave Tinder and Create a Tinder Copycat, Bumble.

43. As discussed above, the early Tinder team included Sean Rad, Justin Mateen, Jonathan Badeen, Joe Munoz, Chris Gulczynski, Whitney Wolfe-Herd, and others. In December 2013, Chris Gulcznyski and Sarah Mick left Tinder. Wolfe-Herd left Tinder shortly thereafter. Exactly one year after the effective date of Chris Gulczynski and Sarah Mick's severance agreements, Gulcznyski, Mick, Wolfe-Herd, and Andrey Andreev, the founder and CEO of

Badoo, another online dating competitor, launched "Bumble."

44. Like Tinder, Bumble is a mobile dating app that relies on a card-stack interface and a mutual opt-in premise before users communicate. For those seeking opposite gender relationships, Bumble requires the female user to send the first message.

45. In the words of the publication TechCrunch, Bumble is "almost *identical* to Tinder, complete with the design of the profile pages, setting, and swipe functionality." (emphasis in original).

46. Texas Monthly recently wrote of Bumble: "the app looked suspiciously like Tinder. . . . [I]t has that famous swipe-right-to-match function, a piece of game play so brilliant it had become a cultural reference point."

47. Multiple other publications, such as BGR and the Los Angeles Business Journal, have described Bumble as a "Tinder-lookalike."

48. Like Tinder, Bumble users interact with "cards" containing photos of other users, as shown below.

49. Like Tinder, Bumble users gesture left and right on cards containing user photos

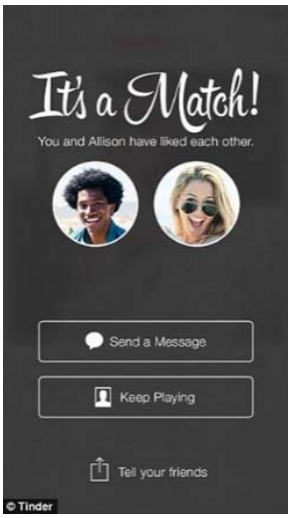
to indicate whether or not the user is interested in the person shown.

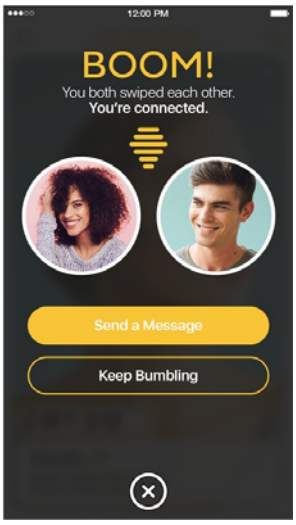
50. Like Tinder, gesturing left indicates a user is not interested in the person shown while gesturing right indicates that the user is interested in the person.

51. Like Tinder, two users cannot communicate over Bumble until they both indicate interest in one another.

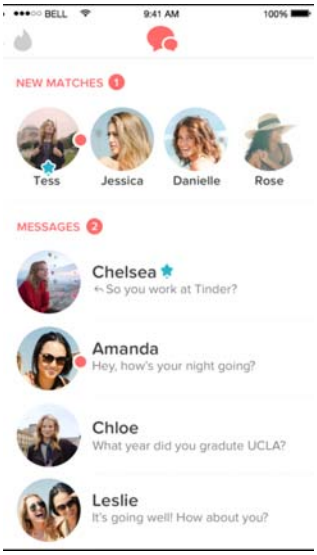
52. Like Tinder, if two users both indicate interest, a screen is shown indicating a "match."

53. Bumble's "match" screen is nearly identical to Tinder's. At the top of the screen is a large exclamatory phrase set off in a font other than the app's default font. Below that, text indicating that the users have expressed a mutual interest is displayed in the app's default font. Below that, two circles, enclosed in white borders, display the photographs of the matched users. Below that, both apps include similarly sized and shaped buttons first presenting the option to either send a message and then, below that, giving the option to return to the preference-indication screen. Both "match screens" are placed against a dark background. These similarities are shown in the pictures below:



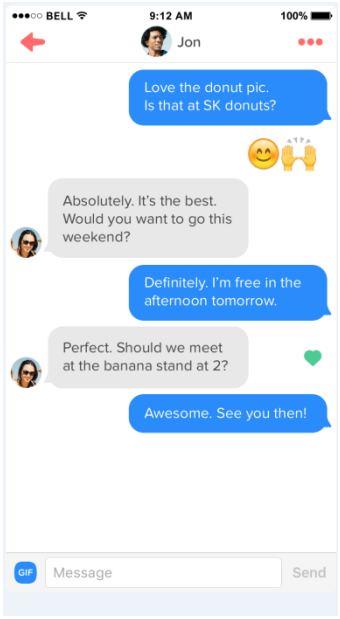


54. The "match queue" screen, where users can find new matches and ongoing conversations with other matches, is also essentially identical. The screens include circle contacts of various users at the top indicating matches for which no messages have been sent. These contacts can be scrolled through horizontally. Below that is a "messages" or "conversations" navigation menu, situated for vertical scrolling, where ongoing conversations are selectable:



55. One third-party publication noted when reviewing Bumble's user interface that this "match queue" is "mostly lifted from Tinder."

56. The look and feel within the chat screen is also nearly identical, as shown below:



57. Compounding the confusion from the copycat looks of the Bumble app, Bumble also makes extensive use of Tinder's registered SWIPE mark as well as its SWIPE LEFT and SWIPE RIGHT word marks.

58. For example, in its "About Us" section of its website, Bumble describes itself as an app that "shows you the people you want to see and lets you connect by a mutual opt in by swiping right."

59. On its preview in the Apple App Store and Google Play Store, Bumble indicates that it is an "industry-leading app [that] empowers users to swipe through potential connections across three different modes . . . ."

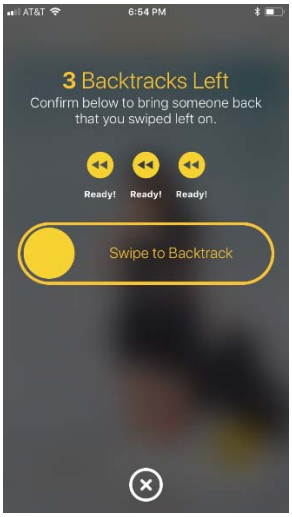
60. Bumble's "July 2017 Press Stats Visual," located on its website, describes the number of "swipes per month" Bumble receives in its app.

61. Bumble's "the Beehive" blog also contains dozens of instances of Bumble using the "swipe" term in connection with online or mobile matchmaking services.

62. Additionally, Bumble includes a section of "Frequently Asked Questions"

inquiring as to (1) why a user "r[a]n out of people to swipe on"; (2) why a user can't "start a conversation with somebody [the user has] swiped right on"; and (3) whether a user can "go back" if the user "swiped the wrong way." Bumble describes its "Backtrack" feature as a way to deal with the situation where a user "accidentally swiped left."

63. Bumble's "backtrack" screen also makes prominent use of the SWIPE and SWIPE LEFT marks, asking a user to "confirm below to bring someone back that you swiped left on" and to "swipe to backtrack":



64. In press interviews, Bumble's CEO repeatedly references "swipes," "swipe lefts" and "swipe rights." For example, in a CNBC interview, located at https://www.youtube.com/watch?v=jyOMHVrVrZo, Bumble's CEO discusses "swiping for opportunity," "swiping to network," "swipe left for no," "swipe right for yes," and that Bumble was getting "a lot of swipes."

65. Similarly, Bumble's CEO described in a Fox Business interview on November 23, 2015, located at https://www.youtube.com/watch?v=m5Ej92-mKkg, that on Bumble "you swipe on one another, and so if you both mutually opt in to have a match . . . you swipe right on her, she swipes right on you, it's a connection."

66. In another interview, from CNN Money on February 11, 2016, Bumble's CEO described Bumble's app as "swip[ing] right or left on potential matches."

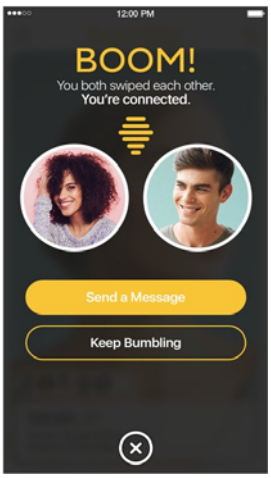
67. Bumble's official advertising also makes use of the "swipe right" term. In an advertisement where two Bumble personnel provide tips for writing dating "bios," one of the "doctors" indicates that she would "swipe right" on a bio she found particularly clever.

68. In fact, it appears Bumble has taken additional, affirmative steps since its initial release to co-opt Match's trademarks and trade dress and trade off of Tinder's powerful brand. As discussed, in both apps, when two users express a mutual preference, a "match screen is shown."

69. Bumble's *original* match screen looked similar to Tinder's match screen, but it had some notable differences, including the location of the of the message and "keep playing" buttons:

70. Moreover, the screen previously animated the circle photographs to pop out and drop below the "keep playing" and "start a chat" buttons, a feature not included in Tinder's match screen.

71. Bumble has since updated to its app to mirror Tinder's. Moreover, Bumble decided to change the phrase "you both liked each other" to "you both swiped each other."



72. In July 2017, Bumble also released a paid feature, the "SuperSwipe."

FIRST CAUSE OF ACTION: INFRINGEMENT OF THE '811 PATENT BY BUMBLE

73. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

74. Bumble directly infringes the '811 patent by making and using a system that practices the claims of Tinder's patent.

75. Claim 1 of the '811 Patent claims:

A computer implemented method of profile matching, comprising:

electronically receiving a plurality of user online-dating profiles, each profile comprising traits of a respective user and associated with a social networking platform;

electronically receiving a first request for matching, the first request electronically submitted by a first user using a first electronic device;

determining a set of potential matches from the plurality of user online-dating profiles for the first user in response to receiving the first request;

causing the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

determining that the first user expressed a positive preference indication regarding the first potential match at least by determining that the first user performed a first swiping gesture associated with the graphical representation of the first potential match on the graphical user interface;

in response to determining that the first user expressed the positive preference indication regarding the first potential match, automatically causing the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

determining that the second user has expressed a positive preference indication regarding the first user after determining that the first user expressed the positive preference indication regarding the first potential match;

determining to enable initial communication between the first user and the second user in response to determining that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

in response to determining to enable initial communication between the first user and the second user, causing the graphical user interface to display to the first user the graphical representation of the first potential match;

determining that the first user expressed a negative preference indication regarding a third potential match of the set of potential matches at least by determining that the first user performed a second swiping gesture associated with a graphical representation of the third potential match on the graphical user interface, the second swiping gesture different than the first swiping gesture, the third potential match corresponding to a third user;

preventing communication between the first user and the third user after determining that the first user has expressed the negative preference indication regarding the third user;

determining that the first user expressed a positive preference indication regarding a fourth potential match of the set of potential matches at least by determining that the first user performed the first swiping gesture associated with a graphical representation of the fourth potential match on the graphical user interface, the fourth potential match corresponding to a fourth user; and

preventing communication between the first user and the fourth user after determining that the fourth user has expressed a negative preference indication regarding the first user.

76. Claim 4 of the ’811 Patent claims:

A non-transitory computer-readable medium comprising instructions that, when executed by a processor, are configured to:

electronically receive a plurality of user online-dating profiles, each

profile comprising traits of a respective user and associated with a social networking platform;

electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device;

determine a set of potential matches from the plurality of user online-dating profiles for the first user in response to receiving the first request;

cause the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

determine that the first user expressed a positive preference indication regarding the first potential match at least by determining that the first user performed a first swiping gesture associated with the graphical representation of the first potential match on the graphical user interface;

in response to the determination that the first user expressed the positive preference indication regarding the first potential match, automatically cause the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

determine that the second user has expressed a positive preference indication regarding the first user after determining that the first user expressed the positive preference indication regarding the first potential match;

determine to enable initial communication between the first user and the second user in response to the determination that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

in response to the determination to enable initial communication between the first user and the second user, cause the graphical user interface to display to the first user the graphical representation of the first potential match; determine that the first user expressed a negative preference indication regarding a third potential match of the set of potential matches at least by determining that the first user performed a second swiping gesture associated with a graphical representation of the third potential match on the graphical user interface, the second swiping gesture different than the first swiping gesture, the third potential match corresponding to a third user;

prevent communication between the first user and the third user after determining that the first user has expressed the negative preference indication regarding third user;

determine that the first user expressed a positive preference indication regarding a fourth potential match of the set of potential matches at least by determining that the first user performed the first swiping gesture associated with a graphical representation of the fourth potential match on the graphical user interface, the fourth potential match corresponding to a fourth user; and

prevent communication between the first user and the fourth user after determining that the fourth user has expressed a negative preference indication regarding the first user.

77. Claim 7 of the ’811 Patent claims:

A system for profile matching, comprising:

an interface operable to:

electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user associated with a social networking platform;

electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device; and

a processor coupled to the interface and operable to:

determine a set of potential matches from the plurality of user online-dating profiles for the first user in response to receiving the first request;

cause the interface to display a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

determine that the interface has received a positive preference indication from the first user regarding the first potential match at least by determining that the first user performed a first swiping gesture associated with the graphical representation of the first potential match on the graphical user interface;

automatically cause the interface to remove the presentation of the

first potential match from the graphical user interface in response to detecting the gesture and cause the interface to present, on the graphical user interface, a second potential match of the set of potential matches to the first user;

determine that the second user has expressed a positive preference indication regarding the first user after determining that the first user expressed the positive preference indication regarding the first potential match; and

determine to enable initial communication between the first user and the second user in response to the determination that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

in response to the determination to enable initial communication between the first user and the second user, cause the graphical user interface to display to the first user the graphical representation of the first potential match;

determine that the first user expressed a negative preference indication regarding a third potential match of the set of potential matches at least by determining that the first user performed a second swiping gesture associated with a graphical representation of the third potential match on the graphical user interface, the second swiping gesture different than the first swiping gesture, the third potential match corresponding to a third user;

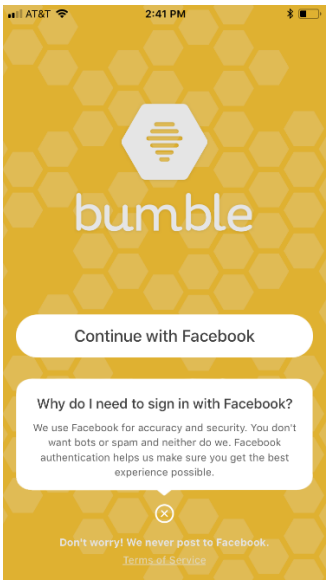
prevent communication between the first user and the third user after determining that the first user has expressed the negative preference indication regarding the third user;

determine that the first user expressed a positive preference indication regarding a fourth potential match of the set of potential matches at least by determining that the first user performed the first swiping gesture associated with a graphical representation of the fourth potential match on the graphical user interface, the fourth potential match corresponding to a fourth user; and
prevent communication between the first user and the fourth user in response to determining that the fourth user has expressed a negative preference indication regarding the first user.

78. Bumble Holding, Ltd. is the listed distributing company for the Bumble app on the Apple App Store and the Google Play Store. Bumble Trading Inc. also markets and

distributes the Bumble app. Thus, Bumble Holding, Ltd. and Bumble Trading Inc. are directly infringing the '811 Patent by making and/or using the Bumble system.

79. In at least one version of the Bumble app,[2] Bumble's servers practice all of the limitations of these claims, as set forth in the example below. For example, Bumble's servers electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user and associated with a social networking platform. When a Bumble app user downloads and initially accesses the application, the user device is required to set up a Bumble account that is associated with the user's Facebook account:

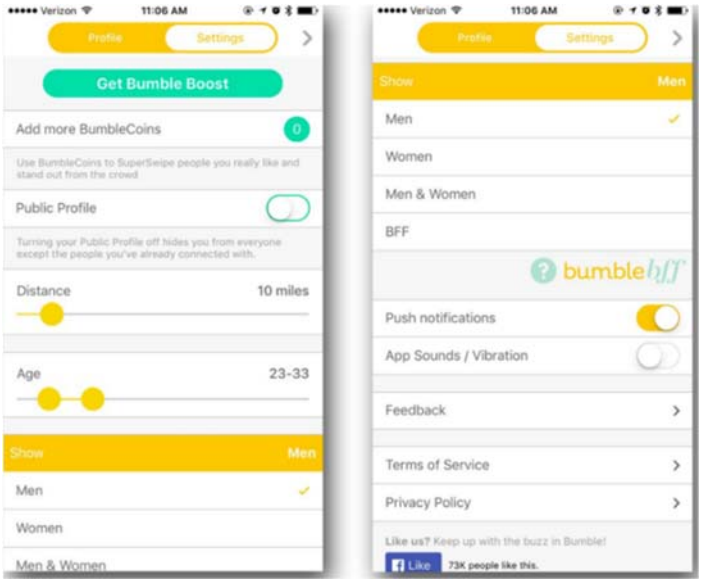


80. Through the account setup process, Bumble receives from each user an online profile comprising traits of respective users. For example, as of March 15, 2018, the Frequently Asked Questions on Bumble's website indicates that Bumble "use[s] Facebook to help build your profile by importing your name, age, school, and/or occupation." Today, Bumble's FAQs "suggest[] using Facebook to help build your profile by importing your name, age, etc."

[2] Bumble recently redesigned its user interface. The analysis contained in this claim relates to the prior version of the app. Differences have been addressed in the infringement contentions already served on Bumble.

81. Bumble's servers also perform the step of electronically receiving a first request for matching, the first request electronically submitted by a first user using a first electronic device. For example, after authorizing his or her Facebook account, the Bumble user is taken to the screen where he or she can indicate positive and negative preferences for various potential matches. At a point before those potential matches are shown, Bumble has received a request for matching.

82. Bumble's servers also perform the step of determining a set of potential matches from the plurality of user online-dating profiles for the first user in response to receiving the first request. In response to receiving the parameters set forth in the request for matching contained in the Bumble app user request, Bumble determines a set of potential matches for the requesting user based on parameters such as location, age, and gender:

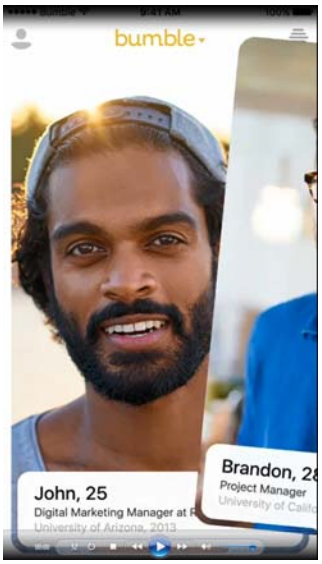


83. Bumble's servers also perform the step of causing the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user. Bumble causes the display of potential matches of other Bumble app users to

appear on the first Bumble app user's graphical user interface. The potential matches shown correspond with the determination of potential matches described in ¶ 78 above:

84. Bumble's servers also perform the step of determining that the first user expressed a positive preference indication regarding the first potential match at least by determining that the first user performed a first swiping gesture associated with the graphical representation of the first potential match on the graphic user interface. A Bumble app user may affirmatively select (or reject) another Bumble app user by swiping gestures. Bumble makes a determination based on this Bumble app user indication (e.g., swiping right or swiping left). Bumble determines whether a first Bumble app user has made a positive preference indication in the form of a first swiping gesture:

85. Bumble's servers also perform the step of, in response to determining that the first user expressed the positive preference indication regarding the first potential match, automatically causing the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match. After determining that the first Bumble app user has expressed a positive preference via a swiping gesture (swipe right), Bumble automatically presents a second potential match:

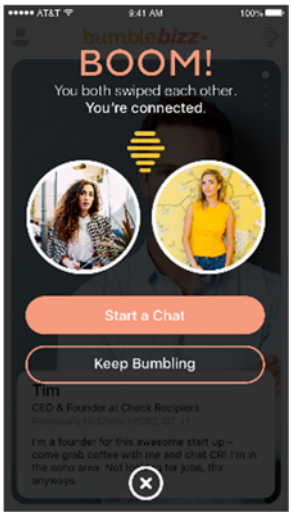


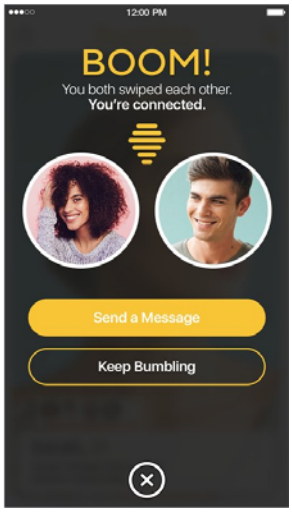
86. Bumble's servers also perform the step of determining that the second user has expressed a positive preference indication regarding the first user after determining that the first user expressed the positive preference indication regarding the first potential match. Bumble compares the selected preference of each potential match (i.e., of a first Bumble app user and a

second Bumble app user), including making a determination whether the first Bumble app user and the second Bumble app user each expressed a positive preference for each other.

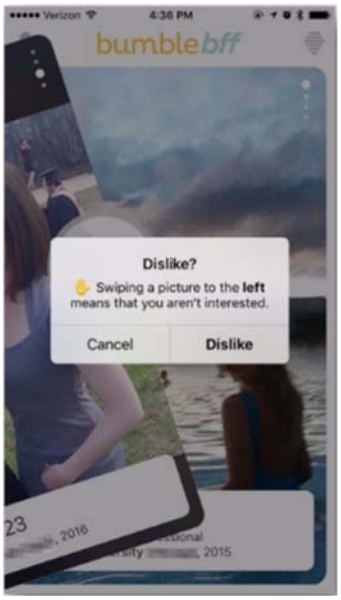
87. Bumble's servers also perform the step of determining to enable initial communication between the first user and the second user in response to determining that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user. In the event that the determination described in the immediately preceding paragraph results in a mutual positive preference indication, Bumble determines to enable initial communication between the first Bumble app user and the second Bumble app user. In the same-gender case, either participant may communicate. In an opposite-gender case, Bumble makes the determination to enable initial communication by allowing the female user to message the male user.

88. Bumble's servers also perform the step of, in response to determining to enable initial communication between the first user and the second user, causing the graphical user interface to display to the first user the graphical representation of the first potential match. For example, upon determining that mutual positive preference gestures have been made, Bumble presents the following graphical representation of the first potential match:





89. Bumble's servers also perform the step of determining that the first user expressed a negative preference indication regarding a third potential match of the set of potential matches at least by determining that the first user performed a second swiping gesture associated with a graphical representation of the third potential match on the graphical user interface, the second swiping gesture different than the first swiping gesture, the third potential match corresponding to a third user. Bumble determines whether the first Bumble app user expressed a negative preference for a third Bumble app user by determining whether the first Bumble app user swiped left:



90. Bumble's servers also perform the step of preventing communication between the first user and the third user after determining that the first user has expressed the negative preference indication regarding the third user. For example, if the first Bumble app user expressed a negative preference for a third Bumble app user, the Bumble app will not allow the first and third Bumble app users to communicate through the app.

91. Bumble's servers also perform the step of determining that the first user expressed a positive preference indication regarding a fourth potential match of the set of potential matches

at least by determining that the first user performed the first swiping gesture associated with a graphical representation of the fourth potential match on the graphical user interface, the fourth potential match corresponding to a fourth user. A Bumble user may affirmatively select (or reject) another Bumble app user by swiping gestures. Bumble makes a determination based on this Bumble user indication (i.e., swipe right or swipe left). Bumble determines whether a first Bumble app user has made a positive preference indication in the form of a first swiping gesture.

92. Finally, Bumble's servers perform the step of preventing communication between the first user and the fourth user after determining that the fourth user has expressed a negative preference indication regarding the first user. Upon a determination that a fourth Bumble app user expressed a negative preference for a first Bumble app user, Bumble will prevent communication between those users.

93. At least some servers perform this method in the United States.

94. Bumble also indirectly infringes the '811 Patent by inducing infringement by others, such as end-user customers, by, for example, encouraging and instructing end-user customers to install and use the Bumble app in the United States.

95. Bumble took the above actions intending to cause infringing acts by others.

96. Bumble was also aware of the '811 Patent. For example, on a February 7, 2018 earnings call, Match Group, Inc. CEO Mandy Ginsberg discussed the '811 Patent.

97. That same day, the online publication Axios indicated that it had reached out to Bumble for a comment about the '811 Patent.

98. Additionally, it was well-publicized that Tinder was seeking a patent related to its "swipe" functionality. For example, a June 22, 2015 article in Adweek indicated that Tinder was prosecuting a patent related to "swipe" functionality.

99. Moreover, Whitney Wolfe-Herd, Chris Gulcznyski, and Sarah Mick were all still at Tinder when the application maturing into the ’811 Patent was filed in October 2013.

100. If Bumble did not know that the actions it encouraged constituted infringement of the ’811 Patent, Bumble nevertheless subjectively believed there was a high probability that others would infringe the ’811 patent but took deliberate steps to avoid confirming that it was actively inducing infringement by others.

101. Bumble also indirectly infringes the ’811 Patent by contributing to infringement by others, such as end-users, by providing within the United States software components for operating Bumble’s app and interacting with the servers associated with Bumble’s app. These software components are, for example, the Bumble app, and the download package that contains the Bumble app for interacting with Bumble’s servers. Bumble’s end-users directly infringed the ’811 Patent by, for example, installing and using the Bumble app in the United States to use the Bumble system in the United States and Bumble servers in the United States. These software components are known by Bumble to be especially made or adapted for use in Bumble’s infringing system.

102. Bumble has known these components to be especially made or especially adapted for use in infringement of the ’811 patent and that these components are not a staple article or commodity of commerce suitable for substantial non-infringing use. Alternatively, Bumble subjectively believed there was a high probability that these components were especially made or especially adapted for use in an infringement of the ’811 Patent and that these components are not a staple article or commodity of commerce suitable for substantial non-infringing use but took deliberate steps to avoid confirming the same.

103. Bumble’s infringement of the ’811 Patent is and has been willful. Bumble at a

minimum knew or had reason to know of certain facts which would lead a reasonable person to realize their actions were unreasonably risky with respect to infringement of the ’811 Patent. For example, as discussed above, Bumble is and has been aware of the ’811 Patent. To Match’s knowledge, Bumble has not attempted to avoid infringement of the patent or to design around it. Bumble designed its app to mirror Tinder and its functionality specifically to compete with Tinder and avoid a barrier to entry in the market by mimicking Tinder’s functionality in connection with an online matchmaking app.

104. The inventions claimed in the ’811 patent are not directed to an abstract idea. Instead, the claims are directed to an improvement in computer and user interface functionality as well as in online social networking.

105. Specifically, the inventors of the continuation-in-part aspect of the ’811 patent set out to improve the user interface functionality in dating and other matchmaking apps. The swipe on a graphical representation of a user to denote positive, and of a different swipe on the graphical representation to denote negative, in connection with a mutual opt-in matchmaking app, was a non-conventional, concrete improvement in how touch screen user interfaces interact with users sifting through and making binary choices, such as indicating positive or negative preferences related to potential matches. Although the general gesture of swiping may have been known in the prior art, the specific application to a graphical representation of a user in the specific matchmaking context claimed, in order to make binary choices expressing a preference or lack thereof regarding potential matches, was unknown and unconventional.

106. This interface improvement allows users to sift through more information, more quickly than previous interfaces addressing similar binary choice user decisions. These efficiencies to user interaction revolutionized the world of online dating.

107. That the inventions are directed toward new computer-specific user interface technology is confirmed by the surrounding limitations. The inventions claim a specific computer method, system, and computer-readable medium of matchmaking where parties are not permitted to communicate unless and until a match is made, user profiles are specifically "online-dating profiles" and those profiles must be "associated with a social networking platform," a type of platform that is itself computer specific. The claims further describe various actions of a graphical user interface that provide certain information at certain times in response to certain types of inputs. This is not conventional post-solution activity in order to monopolize an abstract idea of matchmaking or even mutual opt-in matchmaking. Instead, these limitations recite a particularly advantageous computer embodiment of a matchmaking process that also solves computer-specific problems related to the ease of creating fake accounts and profiles, the inconvenience of filling out profiles, and the problem of certain online dating users being inundated with messages. This particularly advantageous online matchmaking method may have been known prior to the inventions claimed. However, this method was not so pervasive as to be "conventional."

108. Moreover, even if that matchmaking method was conventional, the inventions are directed to an improved interface for that method.

SECOND CAUSE OF ACTION: INFRINGEMENT OF THE '023 PATENT BY BUMBLE

109. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

110. Bumble directly infringes the '023 Patent at least by making and using a system that practices the claims of Tinder's patent.

111. For example, independent claim 3 of the '023 Patent recites:

A system, comprising:

an interface operable to:

present a graphical representation of a first item of information of a plurality of items of information, the first item of information comprising a graphical representation of a first online dating profile associated with a first user, wherein the interface is further operable to present the graphical representation of the first item of information of the plurality of items of information as a first card of a stack of cards;

a processor coupled to the interface and operable to:

detect a gesture associated with the graphical representation of the first item of information, the gesture corresponding to a positive preference indication associated with the first item of information, the positive preference indication associated with the first item of information comprising an expression of approval for the first user associated with the first online dating profile, wherein the processor is further operable to detect a right swiping direction associated with the gesture;

store the positive preference indication associated with the first item of information in response to detecting the gesture; and

the interface further operable to:

automatically present a graphical representation of a second item of information of the plurality of items of information in response to the processor detecting the gesture, the second item of information comprising a graphical representation of a second online dating profile associated with a second user; and

automatically remove the graphical representation of the first item of information in response to detecting the gesture.

112. Bumble Holding, Ltd. is the listed distributing company for the Bumble app on the Apple App Store and the Google Play Store. Bumble Trading Inc. also markets and distributes the Bumble app. Thus, Bumble Holding, Ltd. and Bumble Trading Inc. are directly infringing the ’811 Patent by making and/or using the Bumble system.

113. In at least one version of the Bumble app,[3] a user device running the Bumble app comprises the claimed system. The Bumble app comprises an interface. When in operation, the app presents a graphical representation of a first item of information of a plurality of items of information, the first item of information comprising a graphical representation of a first online dating profile associated with a first user. Specifically, the app presents a graphical representation of a first online dating profile at least by showing a picture of a user associated with an online dating profile:

114. Bumble's interface is further operable to present the graphical representation of the first item of information (i.e., the graphical representation of the online dating profile) as a first card of a stack of cards. Specifically, Bumble's graphical interface presents dating profiles in a stacked, card-based format:

[3] Bumble recently redesigned its user interface. The analysis contained in this claim relates to the prior version of the app. Differences have been addressed in the infringement contentions already served on Bumble.

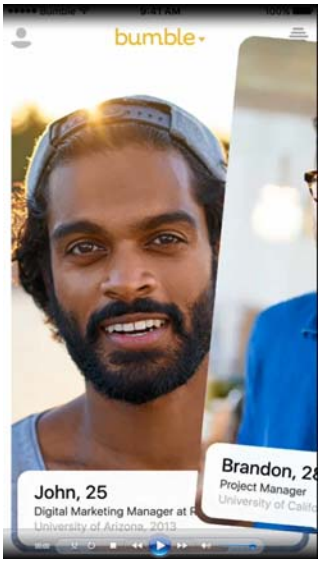
115. User devices compatible with the Bumble app include processors.

116. When the Bumble app is downloaded and installed, those processors are operable to detect a gesture associated with the graphical representation of the first item of information, the gesture corresponding to a positive preference indication associated with the first item of information, the positive preference indication associated with the first item of information comprising an expression of approval for the first user associated with the first online dating profile. Specifically, when the Bumble app is operating on a device, it detects a gesture—a right swiping gesture—performed on the graphical representation of the online dating profile to indicate a positive preference for the user associated with that profile:

117. As shown above, the code comprising the Bumble app, when downloaded, installed, and operating on a user device renders the device's processor operable to detect a right swiping direction associated with the positive preference indication gesture.

118. The code comprising the Bumble app also renders the device's processor operable to store that positive preference indication associated with the first item of information in response to detecting the gesture. Specifically, after the app detects that a user has swiped right on the graphical representation of the dating profile, it stores data in memory indicating a positive preference before transmitting that data to Bumble's servers.

119. Bumble's app also comprises an interface that automatically presents a graphical representation of a second item of information of the plurality of items of information in response to the processor detecting the gesture, the second item of information comprising a graphical representation of a second online dating profile associated with a second user. In the Bumble app, in response to the processor detecting the positive indication gesture, the Bumble app automatically presents the entire graphical representation of a second online dating profile associated with a second user:



120. As shown above, the Bumble app also automatically removes the graphical representation of the first item of information in response to detecting the gesture.

121. Bumble also indirectly infringes the ’023 Patent by inducing infringement by others, such as end-user customers, by, for example, encouraging and instructing end-user customers to install and use the Bumble app in the United States.

122. Bumble took the above actions intending to cause infringing acts by others.

123. If Bumble did not know that the actions it has encouraged and continues to encourage constitute infringement of the ’023 Patent, Bumble nevertheless subjectively believes there was and is a high probability that others have and will infringe the ’023 Patent but has taken and is taking deliberate steps to avoid confirming that it is actively inducing infringement by others.

124. Bumble also indirectly infringes the ’023 Patent by contributing to infringement by others, such as end-users, by providing within the United States software components for operating Bumble’s app. These software components are, for example, the Bumble app, and the download package that contains the Bumble app. Bumble’s end-users directly infringed the ’023 Patent by, for example, installing and using the Bumble app in the United States to use the Bumble system in the United States. These software components are known by Bumble to be especially made or adapted for use in Bumble’s infringing system.

125. Bumble has known these components to be especially made or especially adapted for use in infringement of the ’023 Patent and that these components are not a staple article or commodity of commerce suitable for substantial non-infringing use. Alternatively, Bumble subjectively believes there was and is a high probability that these components were especially made or especially adapted for use in an infringement of the ’023 Patent and that these

components are not a staple article or commodity of commerce suitable for substantial non-infringing use but has taken and is taking deliberate steps to avoid confirming the same.

126. Bumble's infringement of the '023 Patent is and has been willful at least as of the filing of this complaint. At that point, Bumble at a minimum knew or had reason to know of certain facts which would lead a reasonable person to realize their actions were unreasonably risky with respect to infringement of the '023 Patent. Bumble has not attempted to avoid infringement of the patent or to design around it. And Bumble designed its app to mirror Tinder and its functionality specifically to compete with Tinder and avoid a barrier to entry in the market.

127. The inventions claimed in the '023 Patent are not directed to an abstract idea. Instead, the claims are directed to an improvement in computer and user interface functionality as well as in online social networking.

128. Specifically, the inventors of the continuation-in-part aspect of the '023 Patent set out to improve the user-interface functionality in online dating apps. Far from claiming the general concept of matchmaking or even mutual opt-in matchmaking on a computer or over the Internet, the '023 Patent recites a new, innovative interface design that reflects a non-conventional, concrete improvement in graphical interfaces for online dating.

129. For example, claim 3 recites multiple specific, concrete aspects related to an improved interface. The claim requires that the graphical representation of a dating profile be represented as the first card of a stack of cards, that the system be operable to detect a gesture corresponding to a positive preference indication of the dating profile, that the interface be operable to detect a right swiping direction associated with that positive preference gesture, that a graphical representation of a second online dating profile is automatically presented in

response to detecting the positive preference gesture, and that the graphical representation of the first data profile is automatically removed.

130. As with the ’811 Patent, the requirements of this claim reflect a non-conventional, concrete improvement in how touch screen user interfaces interact with users sifting through and making binary choices. Even if the general gesture of swiping was known in the prior art, the specific application of the swiping gesture to indicate a preference on a card-based online dating interface was unknown and unconventional and provides specific, concrete improvements to the interface.

131. This interface improvement allows users to sift through more information, more quickly than previous interfaces addressing similar binary choice user decisions. These efficiencies to user interaction revolutionized the world of online dating.

THIRD CAUSE OF ACTION: INFRINGEMENT OF THE ’854 PATENT BY BUMBLE

132. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

133. Bumble directly infringes the ’854 Patent at least by making and using a system that practices the claims of Match’s patent.

134. For example, independent claim 1 of the ’854 Patent recites:

> A non-transitory computer-readable medium comprising instructions that, when executed by a processor, are configured to:
>
> > electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user;
> >
> > electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device;
> >
> > determine from the plurality of user online-dating profiles a set of potential matches for the first user;
> >
> > cause the display of a graphical representation of a first potential match of the set

of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

receive from the first electronic device of the first user a first positive preference indication associated with the graphical representation of the second user on the graphical user interface, the first positive preference indication associated with a first gesture performed on the graphical user interface, wherein the first gesture comprises a first swiping gesture;

cause the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

receive from a second electronic device of the second user a positive preference indication regarding the first user;

determine to allow the first user to communicate with the second user in response to receiving from the first electronic device of the first user the first positive preference indication regarding the second user and receiving from the second electronic device of the second user the positive preference indication regarding the first user;

receive from the first electronic device of the first user a first negative preference indication associated with a graphical representation of a third potential match on the graphical user interface, the first negative preference indication associated with a second gesture performed on the graphical user interface, the third potential match corresponding to a third user, wherein the second gesture comprises a second swiping gesture different than the first swiping gesture;

without allowing communication between the first user and the third user, receive from the first electronic device of the first user a second positive preference indication associated with a graphical representation of a fourth potential match on the graphical user interface, the second positive preference indication associated with the first gesture performed on the graphical user interface, the fourth potential match corresponding to a fourth user;

receive from a third electronic device of the fourth user a second negative preference indication associated with a graphical representation of the first user; and

without allowing communication between the first user and the fourth user, receive from the first electronic device of the first user a third positive preference indication associated with a graphical representation of a fifth potential match on the graphical user interface, the third positive preference indication associated with the first gesture performed on the graphical user interface, the fifth potential match corresponding to a fifth user.

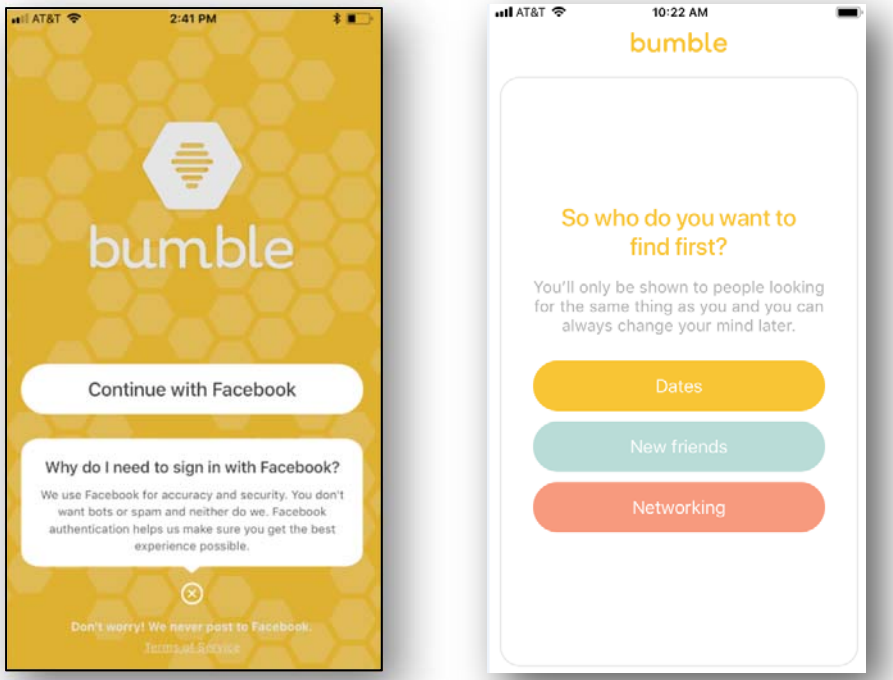
135. Bumble Holding, Ltd. is the listed distributing company for the Bumble app on the Apple App Store and the Google Play Store. Bumble Trading Inc. also markets and distributes the Bumble app. Thus, Bumble Holding, Ltd. and Bumble Trading Inc. are directly infringing the '811 Patent by making and/or using the Bumble system.

136. In at least one version of the Bumble app,[4] Bumble directly infringes the '854 Patent at least by making and using a system that practices the claims of Match's patent. Bumble's servers practice all of the limitations of these claims, as set forth in the example below. For example, one or more non-transitory computer-readable media reside on Bumble's servers that contain instructions that, when executed by one or more processors, are configured to perform the operations recited in the claim.

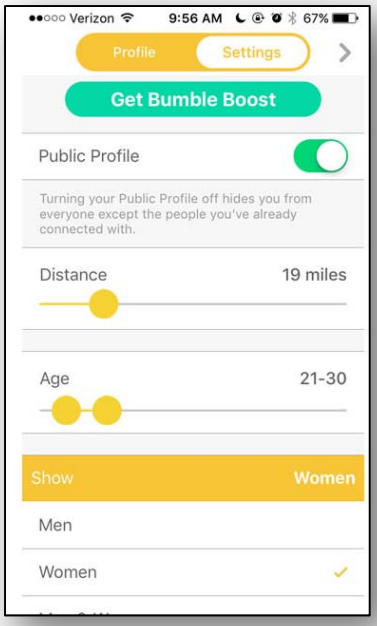
137. Through the account-setup process, Bumble receives from each user an online profile comprising traits of respective users. For example, the Frequently Asked Questions on Bumble's website indicates that Bumble "use[s] Facebook to help build your profile by importing your name, age, school, and/or occupation."

138. Bumble's servers are configured to electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device. For example, after authorizing his or her account (via Facebook or via phone number authentication), the Bumble user is taken to the screen where he or she can indicate positive and negative preferences for various potential matches. At a point before those potential matches are shown, Bumble has received a request for matching.

[4] Because the Bumble app was modified prior to the issuance of the '854 Patent, these allegations relate to the current version of the Bumble app.

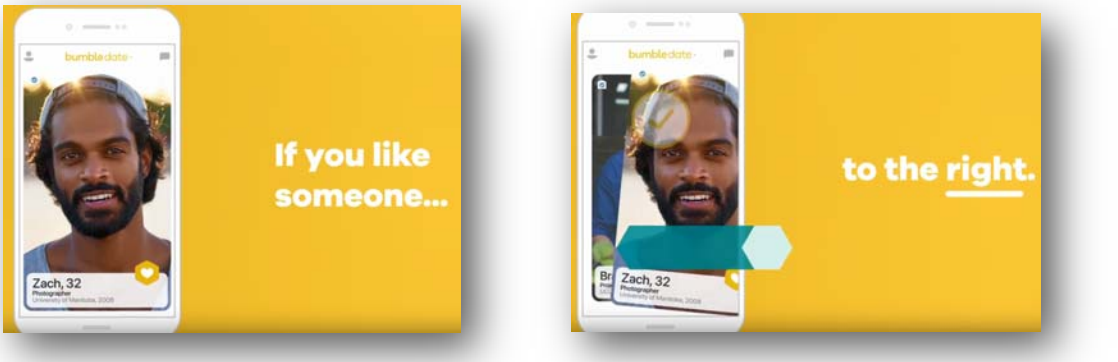


139. Bumble's servers are configured to determine from the plurality of user online-dating profiles a set of potential matches for the first user. For example, in response to receiving the parameters set forth in the request for matching contained in the Bumble app user request, Bumble determines a set of potential matches for the requesting user based on parameters such as location, age, and gender.

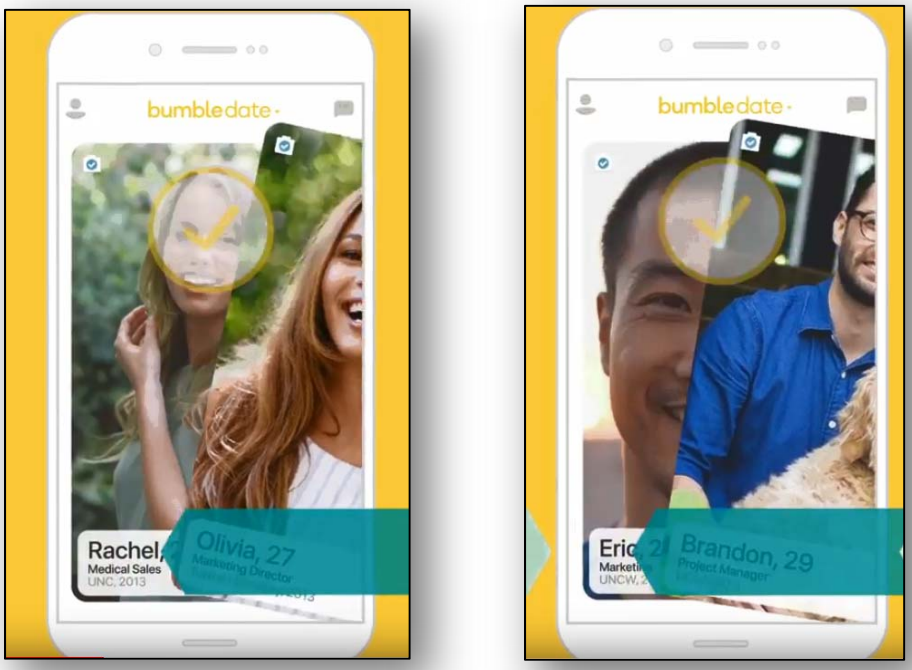


140. Bumble's servers are configured to cause the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user. For example, Bumble causes the display of potential matches of other bumble app users to appear on the first Bumble app user's graphical user interface.

141. Bumble's servers are configured to receive from the first electronic device of the first user a first positive preference indication associated with the graphical representation of the second user on the graphical user interface, the first positive preference indication associated with a first gesture performed on the graphical user interface, wherein the first gesture comprises a first swiping gesture. For example, a Bumble app user may affirmatively select (or reject) another Bumble app user by using "swiping" gestures (i.e., sliding the potential match left or right).

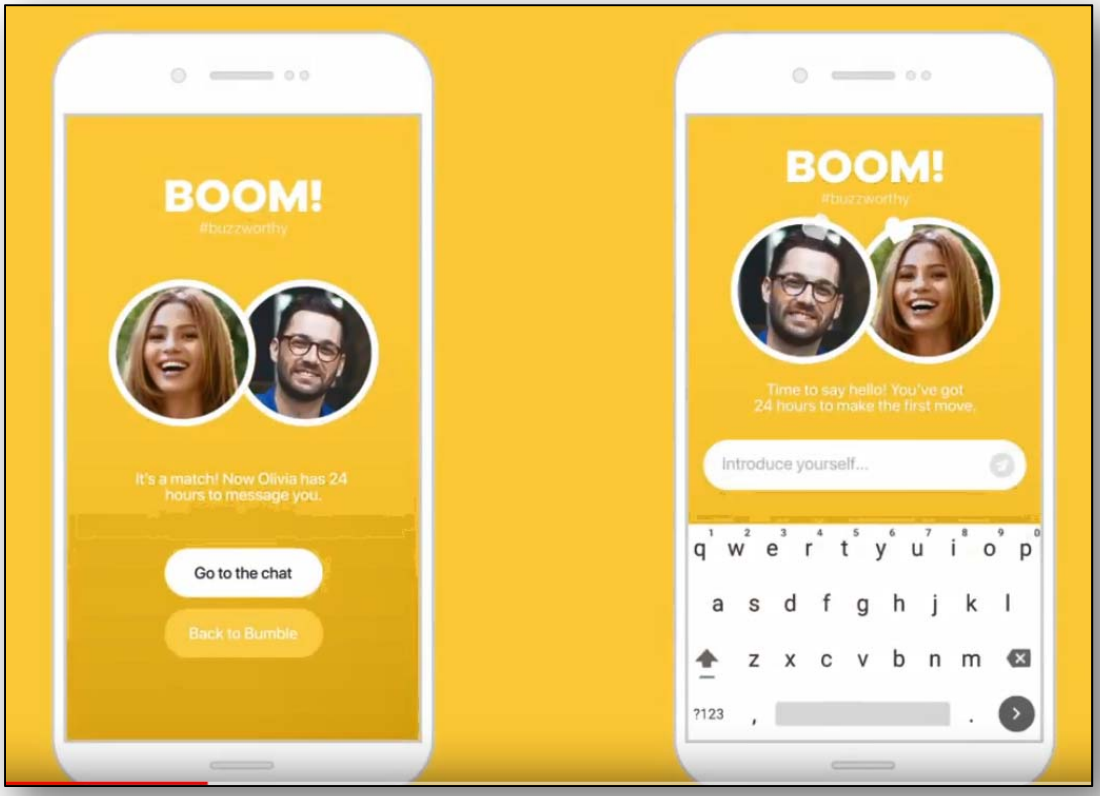


142. Bumble's servers are configured to cause the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match. For example, after the first user expressed the positive indication regarding the first potential match, Bumble displays a second potential match from the set of potential matches.



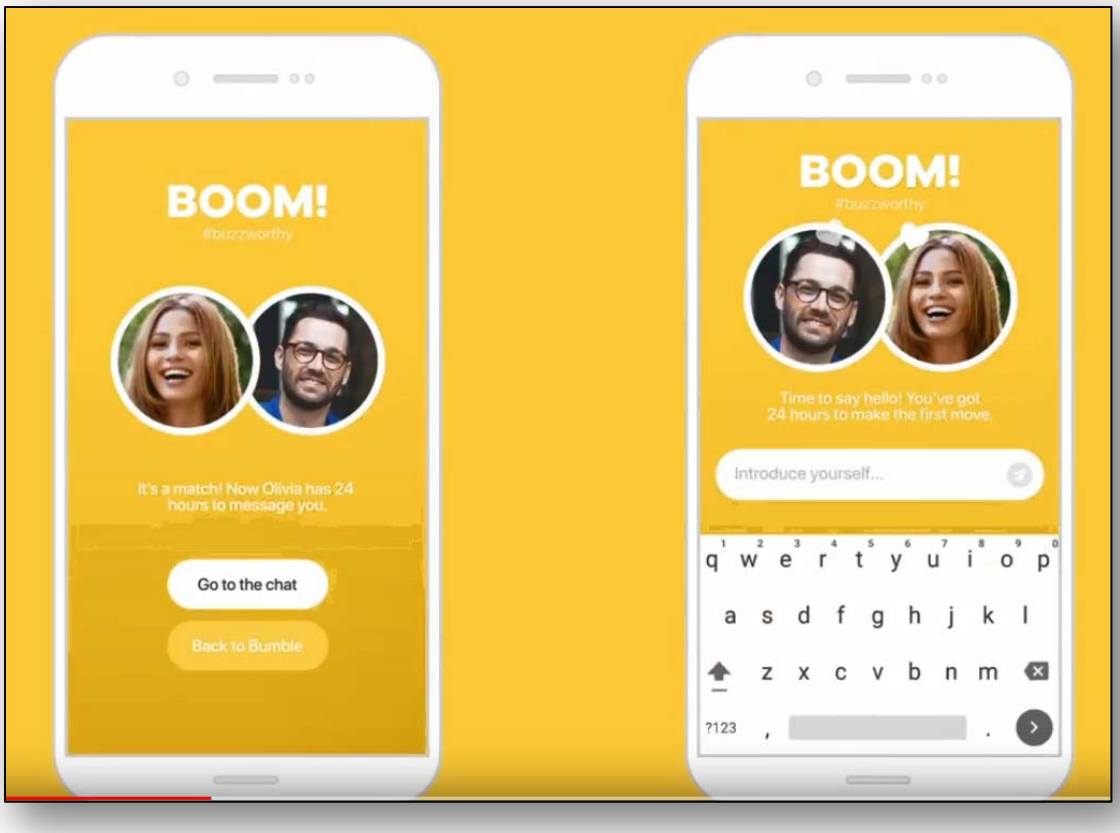
143. Bumble's servers are configured to receive from a second electronic device of the

second user a positive preference indication regarding the first user. Bumble compares the selected preference of each potential match (i.e., of a first Bumble app user and a second Bumble app user), including making a determination whether the first Bumble app user and the second Bumble app user each expressed a positive preference for each other. In this example, both users "Olivia" and "Brandon" have expressed a positive preference for each other. Bumble's Accused Instrumentalities determines that this occurs and indicates it to the users via the "BOOM! It's a match!" screen.



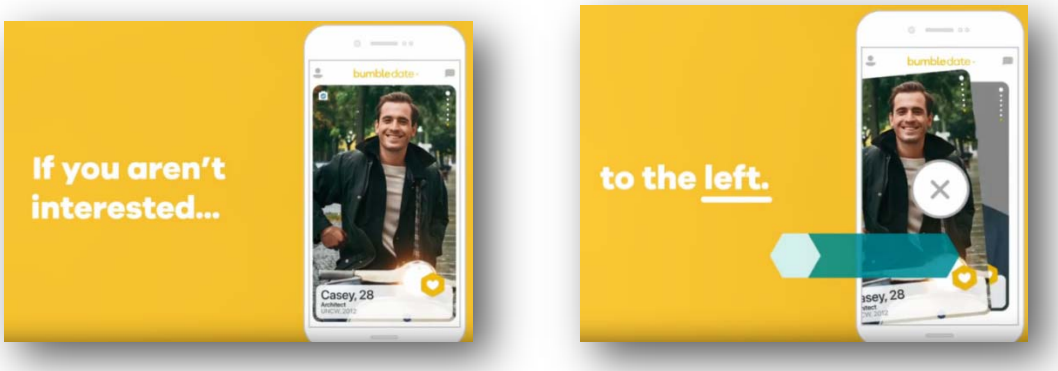
144. Bumble's servers determine to allow the first user to communicate with the second user in response to receiving from the first electronic device of the first user the first positive preference indication regarding the second user and receiving from the second electronic device of the second user the positive preference indication regarding the first user. In the event

that there is a mutual positive preference indication between the first user and the second user, Bumble determines to allow the first user to communicate with the second user in response to receiving from the first electronic device of the first user the first positive preference indication regarding the second user and receiving from the second electronic device of the second user the positive preference indication regarding the first user. In the opposite-gender case, Bumble determines to allow the communication by allowing the female user to message the male user. The phone on the right, in this example, corresponding to user "Olivia" is allowed to communicate with the user Brandon. The phone on the left, in this example, corresponding to the user "Brandon," is also allowed to communicate with the user "Olivia" as long as "Olivia" messages first.



145. Bumble's servers are configured to receive from the first electronic device of the

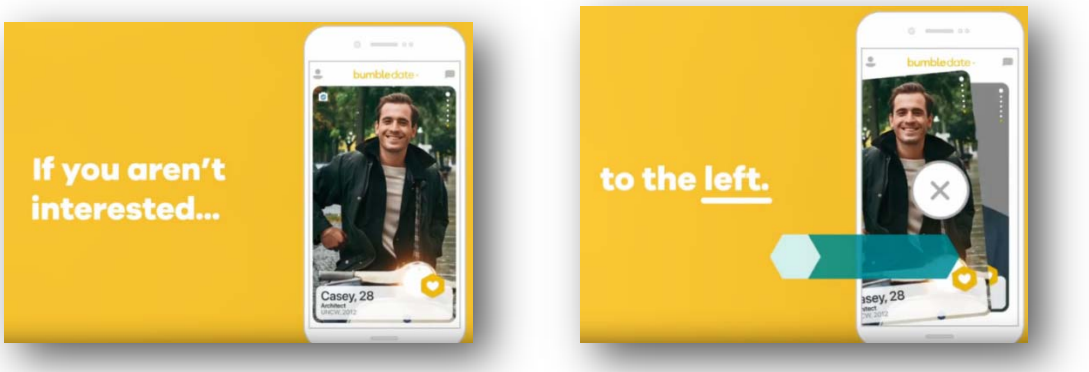
first user a first negative preference indication associated with a graphical representation of a third potential match on the graphical user interface, the first negative preference indication associated with a second gesture performed on the graphical user interface, the third potential match corresponding to a third user, wherein the second gesture comprises a second swiping gesture different than the first swiping gesture. For example, Bumble receives from the first electronic device of the first user a first negative preference indication when the first user performs a "swiping" gesture in the left direction.



146. Bumble's servers are configured to, without allowing communication between the first user and the third user, receive from the first electronic device of the first user a second positive preference indication associated with the first gesture performed on the graphical user interface, the fourth potential match corresponding to a fourth user. For example, if the first Bumble app user expressed a negative preference for a third Bumble app user, Bumble's Accused Instrumentalities do not allow the first and third Bumble app users to communicate through the app. After indicating a negative preference on a user, a Bumble user can continue to indicate preferences on additional users by use of "swiping" gestures. When a user indicates another positive preference by a "swiping" in the right direction, Bumble receives from the first electronic device that second positive preference indication, which is associated with a graphical

representation of a fourth potential match corresponding to a fourth user. For example, the earlier example used with Olivia and Brandon could involve additional users, such as "Eric," and would operate in the same manner. The positive preference again is a "swipe" gesture in the same direction as the previously identified positive preference.

147. Bumble's servers are configured to receive from a third electronic device of the fourth user a second negative preference indication associated with a graphical representation of the first user. For example, a Bumble user may affirmatively reject another Bumble app user by swiping gestures. Bumble receives these user indications (i.e., sliding the potential match left or tapping the X button).



148. Bumble's servers are configured to, without allowing communication between the first user and the fourth user, receive from the first electronic device of the first user a third positive preference indication associated with a graphical representation of a fifth potential match on the graphical user interface, the third positive preference indication associated with the first gesture performed on the graphical user interface, the fifth potential match corresponding to a fifth user. For example, after a first user has another user express a negative preference for the first user, the user can continue to indicate preferences on additional users by use of "swiping" gestures.

149. Bumble also indirectly infringes the ’854 Patent by inducing infringement by others, such as end-user customers, by, for example, encouraging and instructing end-user customers to install and use the Bumble app in the United States.

150. Bumble took the above actions intending to cause infringing acts by others.

151. If Bumble did not know that the actions it has encouraged and continues to encourage constitute infringement of the ’854 Patent, Bumble nevertheless subjectively believes there was and is a high probability that others have and will infringe the ’854 Patent but has taken and is taking deliberate steps to avoid confirming that it is actively inducing infringement by others.

152. Bumble also indirectly infringes the ’854 Patent by contributing to infringement by others, such as end-users, by providing within the United States software components for operating Bumble’s app. These software components are, for example, the Bumble app, and the download package that contains the Bumble app. Bumble’s end-users directly infringed the ’854 Patent by, for example, installing and using the Bumble app in the United States to use the Bumble system in the United States. These software components are known by Bumble to be especially made or adapted for use in Bumble’s infringing system.

153. Bumble has known these components to be especially made or especially adapted for use in infringement of the ’854 Patent and that these components are not a staple article or commodity of commerce suitable for substantial non-infringing use. Alternatively, Bumble subjectively believes there was and is a high probability that these components were especially made or especially adapted for use in an infringement of the ’854 Patent and that these components are not a staple article or commodity of commerce suitable for substantial non-infringing use but has taken and is taking deliberate steps to avoid confirming the same.

154. Bumble's infringement of the '854 Patent is and has been willful at least as of the filing of this complaint. At that point, Bumble at a minimum knew or had reason to know of certain facts which would lead a reasonable person to realize their actions were unreasonably risky with respect to infringement of the '854 Patent. Bumble has not attempted to avoid infringement of the patent or to design around it. And Bumble designed its app to mirror Tinder and its functionality specifically to compete with Tinder and avoid a barrier to entry in the market.

155. The inventions claimed in the '854 Patent are not directed to an abstract idea. Instead, the claims are directed to an improvement in computer and user interface functionality as well as in online social networking.

156. Specifically, the inventors of the continuation-in-part aspect of the '854 Patent set out to improve the functionality in online dating apps. Far from claiming the general concept of matchmaking or even mutual opt-in matchmaking on a computer or over the Internet, the '854 Patent recites a new, innovative configuration that reflects a non-conventional, concrete improvement in process related to online dating.

157. For example, claim 1 recites multiple specific, concrete aspects related to an improved configuration. The claim requires that online profiles be tied to traits of respective users, that sets of potential matches be presented to the users, that the system is operable to detect a gesture corresponding to a positive and negative preference indications regarding the dating profile dependent upon different swiping gestures, that the system determines that communications are allowed between two users who have indicated a positive preference for each other, that the system does not allow communications where at least one user has indicated a negative preference, and that the users are presented with multiple additional potential matches

following each preference indication.

158. As with the ’811 and ’023 Patents, the requirements of this claim reflect a non-conventional, concrete improvement in how touch screen user interfaces interact with users sifting through and making binary choices. The specific directional dragging-gesture on a graphical representation of a user to denote positive, and of a dragging gesture in a different direction on the graphical representation to denote negative, in connection with a mutual opt-in matchmaking app, was a non-conventional, concrete improvement in how touch screen user interfaces interact with users sifting through and making binary choices, such as indicating positive or negative preferences related to potential matches. As with the ’811 and ’023 patents, although the general gesture of “swiping” may have been known in the prior art, the specific application to a graphical representation of a user in the specific matchmaking context claimed, in order to make binary choices expressing a preference or lack thereof regarding potential matches, was unknown and unconventional.

159. This interface improvement allows users to sift through more information, more quickly than previous interfaces addressing similar binary choice user decisions. These efficiencies to user interaction revolutionized the world of online dating. Scroll-based interfaces were prevalent and ubiquitous in the online dating world at the time of the inventions claimed in the ’854 Patent.

160. Although these interfaces were generally fine for their intended purposes, they suffered from drawbacks.

161. For example, many users feel like scrolling can be difficult, particularly when scrolling on devices with small screens.

162. Additionally, scroll-based systems tend to hinder the ability to show large photographs. In the dating context, many users believe that viewing photographs of potential matches is one of the most significant aspects of making preference decisions.

163. The innovations claimed in the CIP aspects of the ’854 patent solve these problems by providing an improved, non-scroll-based interface thereby fostering more binary choice decisions and increased user engagement with the application.

164. The innovations do this by describing the one-at-time, dragging-gesture based interface claimed in the ’854 Patent.

165. By requiring profiles to be viewed one-at-a-time, the interface precludes users from deferring preference choices, which enables the system to obtain additional preferences concerning users than it might otherwise.

166. Further, by allowing preference indications to be received by virtue of a dragging-gesture known in the patent as a “swipe,” the interface minimizes user movement, thus also fostering user engagement and more potential matches to be made.

167. In the wake of Tinder’s release, multiple third-party publications lauded Tinder’s innovative card-based format.

168. For example, a public project published in connection with a class at Davidson College describes Tinder’s card-based interface as “[t]he most important and innovating [*sic*] aspect of the design of Tinder.” It further contrasts the interface as “an alternative to the traditional scrolling interface” and describes various advantages of the Tinder interface to scroll-based interfaces. For example, it describes that “Tinder requires extremely little movement from its user in order to function” and that it “require[s] far less effort than other interfaces, which makes it more appealing to its users,” which is particularly advantageous “[i]n a culture where

speed and ease are paramount." The article goes on to describe Bumble as "almost identical" to Tinder and recognized that "[t]he fact that Bumble is almost identical to Tinder displays the genius of Tinder's concept and design." *See* Ex. E.

169. In another 2015 article from growthhackers.com, the author praised Tinder's "novel user experience," and "novel interface and interaction design." The author acknowledged that "the way Tinder is built has everything to do with how it caught fire." It describes "the big difference between Tinder and other mobile apps is how you navigate through potential matches. Matches are presented like a virtual deck of cards that the user 'swipes' through," noting that the interface makes it "easy to do with one hand, making it perfect for moving quickly" while also providing "more screen real estate . . . for large pictures and more information," which "isn't feasible in a list format or on a small screen with lots of navigation options." *See* Ex. F.

170. In a 2017 article from innovationiseverywhere.com, describing Tinder's rise to success, Tinder's user interface was described as what "was different" from competitor applications at the time. The article further describes that "Tinder's UI simplified the selection process of finding potential suitors to a binary option . . . . Unlike other dating apps that require the user to plough through cumbersome lists, Tinder required only an input that registered as a 'Yes' or 'No' from the user." *See* Ex. G.

FOURTH CAUSE OF ACTION: TRADEMARK INFRINGEMENT UNDER 15 U.S.C. § 1114(a)

171. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

172. Match has received a federal registration for the mark SWIPE in connection with computer application software for mobile devices—software for social introduction and dating services.

173. Match, through Tinder, first used the mark SWIPE in commerce on or around

March 28, 2013 and continues to do so.

174. Bumble, by using Match's SWIPE mark to compete with Tinder in the market for software for social introduction and dating services," violated 15 U.S.C. § 1114. As discussed above, Bumble is prominently using Match's SWIPE mark throughout its app and promotional activities. Bumble's activities are causing, and, unless enjoined, will continue to cause, a likelihood of confusion and deception of members of the public, and, additionally, injury to Match and Tinder's reputation and goodwill as reflected in the SWIPE mark. Bumble's use of the SWIPE mark will also actually deceive the public or is at least likely to deceive the public regarding the source, sponsorship, and/or affiliation of Bumble's app.

175. These actions have also materially damaged the value of Match's registered SWIPE mark.

176. As a proximate result of Bumble's actions, Match has suffered damages, including, but not limited to, lost revenue and loss of goodwill associated with its Tinder app.

177. At least because of the prior affiliation of Bumble officers with Tinder and because of Bumble's competition with Tinder, Bumble's actions also demonstrate an intentional, willful, and malicious intent to trade on goodwill associated with Match and Tinder's SWIPE mark.

FIFTH CAUSE OF ACTION: TRADEMARK INFRINGEMENT UNDER 15 U.S.C. § 1125(a)

178. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

179. Match is the owner of word marks SWIPE LEFT and SWIPE RIGHT in connection with internet-based dating and matchmaking and similar services since at least on around March 28, 2013. Match has used and continues to use these marks throughout the United States.

180. These marks are valid and enforceable and in full force and effort.

181. As described above, Bumble uses Match's SWIPE LEFT and SWIPE RIGHT marks prominently. Bumble's doing so is likely to cause confusion or mistake or deceive the public as to the origin, sponsorship, or approval of the Bumble app.

182. At least because of the prior affiliation of Bumble officers with Tinder and because of Bumble's competition with Tinder, Bumble's actions also demonstrate an intentional, willful, and malicious intent to trade on goodwill associated with the SWIPE RIGHT and SWIPE RIGHT word marks.

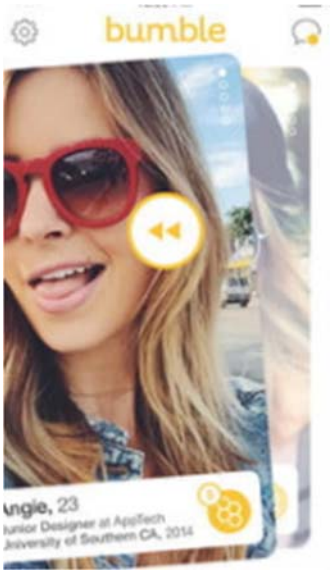
183. These actions have caused damages to Match, including lost Tinder revenue as well as damages to Tinder's brand and associated goodwill.

SIXTH CAUSE OF ACTION: INFRINGEMENT OF TRADE DRESS UNDER 15 U.S.C. § 1125(a)

184. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

185. Match is also the owner of legally protectable trade dress. For example, the non-functional, design and appearance of Tinder's card stack, namely the appearance of a profile picture as a card on top of a stack of profile pictures being dragged at an angle off a screen, is either inherently distinctive or has acquired secondary meaning designating Match and Tinder as the source of the product.

186. Match has protectable trade dress in the non-functional, ornamental design of cards showing photographs tilted both left and right, as shown below:



187. This is because the visual impression of the Tinder app is of cards being dragged off the screen in the exact same way.

188. As described above, the appearance of this interface has been described as "famous" or "iconic" by multiple third-party publications.

189. This interface was first used in commerce some time before September 1, 2012.

190. By including this same non-functional ornamental design, Bumble's app is likely to cause confusion or mistake or deceive the public as to the origin, sponsorship, or approval of

the Bumble app.

191. Match is also the owner of trade dress related to Tinder's "It's a Match!" screen, shown here:

192. The Tinder app has included this same or similar design since it was initially released.

193. The "It's a Match Screen!" was first used in commerce on August 2, 2012.

194. As described above, Tinder uses this screen in various advertising materials, including on the App Store, Google Play Store, and on YouTube.

195. This overall design is non-functional.

196. By including this same non-functional design, Bumble's app is likely to cause confusion or mistake or deceive the public as to the origin, sponsorship, or approval of the Bumble app.

197. As also discussed above, Bumble's similar screen is virtually identical to Tinder's.

198. By including this same non-functional design, Bumble's app is likely to cause

confusion or mistake or deceive the public as to the origin, sponsorship, or approval of the Bumble app.

199. At least because of the prior affiliation of Bumble officers with Tinder and because of Bumble's competition with Tinder, Bumble's actions also demonstrate an intentional, willful, and malicious intent to trade on goodwill associated with Match's trade dress.

200. These actions have caused damages to Match in the form of lost Tinder revenue as well as damages to Tinder's brand and associated goodwill.

SEVENTH CAUSE OF ACTION: TRADEMARK DILUTION

201. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

202. Certain of Bumble's actions also constitute trademark and trade dress dilution by blurring under 15 U.S.C. § 1125(c).

203. Match's wordmark SWIPE RIGHT is famous to the general public.

204. As discussed above, the phrase "swipe right" is included in the Oxford English Dictionary, specifically associated with the Tinder app.

205. "Swipe right," especially in the connection with "swipe left," is often described by third parties as a famous "cultural phenomenon."

206. These third parties describe the cultural phenomenon specifically in reference to Tinder and the Tinder app.

207. In light of Tinder's own extensive marketing as well as the descriptions of third-parties, SWIPE RIGHT has become effectively a "household name" identifying the Tinder brand and Tinder app.

208. After Tinder's SWIPE RIGHT mark became famous, Bumble began using SWIPE RIGHT in connection with its app. Bumble's routine use of the mark SWIPE RIGHT in

connection with a direct competitor mobile dating service has caused and is likely to cause dilution by blurring, diluting the distinctiveness of SWIPE RIGHT as a brand signifier for Tinder and/or Match.

209. These actions have harmed the reputation of goodwill associated with Tinder.

210. Bumble's dilution of Tinder's SWIPE RIGHT mark has been willful and intentional.

EIGHTH CAUSE OF ACTION: TEXAS UNFAIR COMPETITION.

211. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

212. As discussed above, Match's trademarks and trade dress are valid marks in full force and effect.

213. Bumble knowingly and willfully used these marks and this trade dress in commerce through the promotion of its app and in the app itself.

214. Bumble's actions are likely to cause consumer confusion, cause consumer mistake, and/or deceive ordinarily prudent consumers as to the affiliation, connection, association, sponsorship, or approval of Match and/or Tinder products because Bumble's actions suggest that its own app originates form, is sponsored by, is authorized by, or is otherwise connected with Tinder and/or Match.

215. These actions have materially damaged the value of Match's Tinder marks and trade dress.

216. As a result, Match has suffered damages, including lost Tinder revenue and damage to goodwill associated with Tinder.

217. Bumble's actions have caused injury to Match, and Match is entitled to damages caused thereby, including punitive damages as a result of Bumble's malicious and willful

actions.

NINTH CAUSE OF ACTION: MISAPPROPRIATION OF TRADE SECRETS UNDER THE DEFEND TRADE SECRETS ACT AND THE TEXAS UNIFORM TRADE SECRETS ACT

218. Match incorporates by reference the preceding paragraphs as if fully set forth herein.

219. In connection with their employment at Hatch Labs/Tinder/Match, at least Chris Gulczynski and Sarah Mick were given access to certain confidential information related to proposed Tinder features.

220. Gulczynski and Mick agreed as part of their employment to keep confidential all confidential information and to not disclose such information to anyone or to use such information for anyone's benefit other than Hatch Labs/Tinder/Match.

221. While at Tinder, Gulcynski and Mick were involved in development for a potential "undo" function for the Tinder app.

222. The concept of the "undo," as discussed internally at Tinder, involved allowing all users three "undos." Once an "undo" was used, it would take a certain period of time for that "undo" to replenish. If the user did not want to wait that time period for the undo to replenish, the user could speed up the process by promoting that app via social media.

223. For example, the image below reflects an internal Tinder mock-up of the "undo" idea in which Gulcynski and Mick were involved:

224. In March of 2015, Bumble implemented a nearly, if not literally, identical concept in its "Backtrack" feature. In Bumble's own words on its website:

> **Can I go back if I swiped the wrong way?**
>
> If you've accidentally swiped left, you can shake your phone to Backtrack on your last decision. Keep in mind you only get three Backtracks at a time. Each Backtrack you use is restored after 3 hours. You can get more Backtracks by sharing your Bumble love on Facebook, Instagram, and Twitter.

225. To be sure, Tinder had previously announced its "rewind" functionality before Bumble released its rewind feature. But Tinder's "rewind" feature was different and remains different from this confidential concept misappropriated from Gulcyzsnki and Mick's time at Tinder.

226. Tinder's rewind allows for "Tinder Plus" users to "rewind" errant left "swipes" in connection with a paid subscription.

227. Bumble's backtrack feature, in contrast, plainly mirrors the three "undos" that replenish over time and/or with promoting the app on social media outlets.

228. At least because of their confidentiality agreements, Gulczysnki and/or Mick knew or had reason to know at the time they began using these concepts that they were acquired

by improper means or under circumstances giving rise to a duty to maintain the secrecy of or limit the use of the secret.

229. Additionally, because Gulczysnki and Mick were co-founders and executives at Bumble, Bumble used this trade secret knowing or with reason to know that the secret was acquired by improper means, acquired under circumstances giving rise to a duty to maintain the secrecy of the trade secret, or was derived from a person (Gulczynski and/or Mick) who owed a duty to Match and Tinder to maintain the secrecy of the idea.

230. Bumble's app, which uses this trade secret, is used in interstate commerce.

231. In light of the totality of the circumstances between Match/Tinder and Bumble, this misappropriation was willful and malicious misappropriation, made with conscious disregard of the rights of Match and Tinder in the trade secret.

232. Indeed, Bumble's misappropriation related to "backtrack" appears to reflect a pattern of disregard for Match's trade secret rights.

233. While Gulczynski and Mick were still at Tinder, Sean Rad came up with an idea to implement picture messaging within the Tinder app.

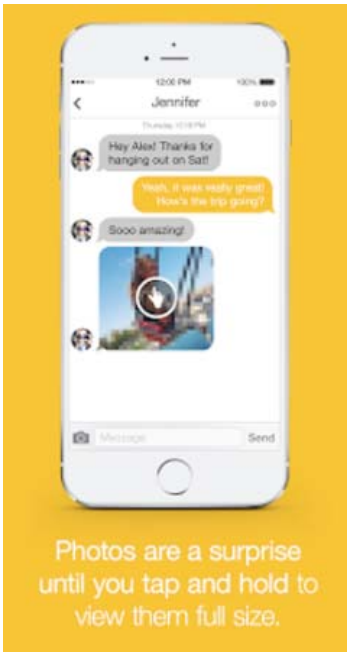
234. Although dating apps had been reluctant to include a direct picture messaging function because of concerns related to unsolicited lewd photographs, Rad conceived the idea of allowing direct photograph messaging but sending only a deliberately blurred photo that the photo recipient would be required to click before viewing an unblurred image. In this way, anyone looking over your shoulder could not see the message unless the recipient clicked it. Further, the user recipient could, based on context, determine whether the sent picture was one the recipient was comfortable viewing in public (or ever).

235. After Rad conceived of the idea, he asked Gulczynski to perform a mock-up of

the concept. Below is a PDF screenshot of Gulczynski's design mock-up at Tinder:

236. The two icons with the hands over them would, once clicked, display the full photo.

237. In February 2015, after Gulczynski and Mick left Tinder to work at Bumble, Bumble implemented the identical concept, complete with same white hand surrounded by a white circle over the blurred image:



238. When Bumble released the feature, Bumble indicated that it was implementing a "Snapchat-like" feature, implying that Bumble was co-opting a feature from Snapchat.

239. The truth is that Gulczynski and/or Mick took the idea from confidential development discussions at Tinder.

240. These co-founders of Bumble that previously worked with Tinder have inappropriately used confidential information related to Bumble's backtrack function.

241. It is currently unknown and unknowable to Match whether Bumble is using any algorithms or source code acquired at Tinder from Gulczysnki, Mick, and/or Wolfe-Herd's time at Tinder. It is also unknown and unknowable to Match whether Bumble acquired or is using other confidential information acquired from Gulczysnki, Mick, and/or Wolfe-Herd's time at Tinder.

242. Bumble's use of the backtrack/undo trade secret constitutes a misappropriation of trade secrets in violation of the Defend Trade Secrets Act and the Texas Uniform Trade Secrets Act.

243. Bumble's misappropriation of the "undo" trade secret has caused damage to Match. It has been forced to compete for users and revenue against a competitor implementing Match's own confidential idea, developed at Match, for Match, by personnel being paid by Match.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for the entry of a judgment from this Court:

1. Judgment in Plaintiff's favor and against Defendants on all causes of action alleged herein;

2. A preliminary and/or permanent injunction restraining Defendants, and their agents, servants, employees, attorneys, successors and assigns, and all persons, firms, and corporations acting in concert with them, from directly or indirectly violating Match Group LLC's patent rights, its rights under the Lanham Act, its rights arising from common law unfair competition, and from any further misappropriation or unauthorized use of Match/Tinder's trade secrets.

3. For damages in an amount to be further proven at trial, including:

a. Damages assessed against Defendants pursuant to the Defend Trade Secrets Act of 2016, including compensatory damages, unjust enrichment or restitution damages, reasonably royalty, and exemplary damages;

b. Damages assessed against Defendants pursuant to the Texas Uniform Trade Secret Act, including compensatory damages, unjust enrichment or restitution damages, reasonably royalty, and exemplary damages;

c. Damages assessed against Defendants pursuant to the Lanham Act, including compensatory damages, statutory damages, treble damages, restitution, including disgorgement of profits,

d. Damages under 35 U.S.C. § 284, including enhancement and including supplemental damages for any continuing post-verdict infringement up until entry of final judgment, with an accounting, as needed;

e. Damages for Defendants' common law unfair competition, including punitive damages

4. For Plaintiff's reasonable attorney's fees;

5. For costs of suit incurred herein, including all disbursements;

6. For pre-judgment and post-judgment interest on the damages awarded;

7. If an injunction is not granted, that Plaintiff be awarded an ongoing licensing fee; and

8. For such other and further relief (including any and all equitable relief) as the Court may deem to be just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable of right by a jury.

DATED: March 14, 2019

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was filed electronically with the Clerk of Court using the CM/ECF system which will send notification of such filing to all counsel registered as Filing Users on this 14th day of March, 2019.

/s/ Bradley W. Caldwell
Bradley W. Caldwell

Exhibit A

US009733811B2

(12) **United States Patent**
Rad et al.

(10) **Patent No.: US 9,733,811 B2**
(45) **Date of Patent: Aug. 15, 2017**

(54) **MATCHING PROCESS SYSTEM AND METHOD**

(71) Applicant: **TINDER, INC.**, West Hollywood, CA (US)

(72) Inventors: **Sean Rad**, Los Angeles, CA (US); **Todd M. Carrico**, Melissa, TX (US); **Kenneth B. Hoskins**, Plano, TX (US); **James C. Stone**, Addison, TX (US); **Jonathan Badeen**, North Hollywood, CA (US)

(73) Assignee: **Tinder, Inc.**, West Hollywood, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 121 days.

(21) Appl. No.: **14/059,192**

(22) Filed: **Oct. 21, 2013**

(65) **Prior Publication Data**

US 2014/0074824 A1 Mar. 13, 2014

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/339,301, filed on Dec. 19, 2008, now Pat. No. 8,566,327.
(Continued)

(51) **Int. Cl.**

G06F 17/30	(2006.01)
G06F 3/0484	(2013.01)
G06Q 10/10	(2012.01)
G06Q 30/02	(2012.01)
G06Q 50/10	(2012.01)
G06Q 50/00	(2012.01)
G06F 3/0482	(2013.01)
G06F 3/0488	(2013.01)

(52) **U.S. Cl.**
CPC ***G06F 3/04842*** (2013.01); ***G06F 3/0482*** (2013.01); ***G06F 3/0488*** (2013.01); ***G06F 17/30554*** (2013.01); ***G06F 17/30657*** (2013.01); ***G06Q 10/10*** (2013.01); ***G06Q 30/02*** (2013.01); ***G06Q 50/01*** (2013.01); ***G06Q 50/10*** (2013.01)

(58) **Field of Classification Search**
CPC G06F 17/30867; G06F 17/3053; G06F 17/30386
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,480,885	B1	11/2002	Olivier	
7,917,448	B2	3/2011	Smola et al.	
8,060,463	B1	11/2011	Spiegel	
8,180,804	B1 *	5/2012	Narayanan et al.	707/798
8,566,327	B2 *	10/2013	Carrico	G06F 17/30657 705/319
2005/0021750	A1	1/2005	Abrams	
2005/0027707	A1 *	2/2005	Syed	G06Q 30/02 707/999.009
2006/0059147	A1	3/2006	Weiss et al.	

(Continued)

OTHER PUBLICATIONS

USPTO, Non-final Office Action dated Aug. 25, 2011 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 14 pages.

(Continued)

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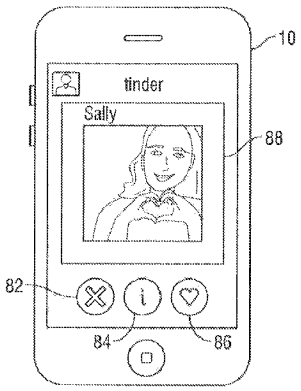
(57) **ABSTRACT**

A method for profile matching includes receiving a plurality of user profiles, each user profile comprising traits of a respective user. The method includes receiving a preference indication for a first user profile of the plurality of user profiles. The method also includes determining a potential match user profile of the plurality of user profiles based on the preference indication for the first user profile. The method also includes presenting the potential match user profile to a second user.

9 Claims, 11 Drawing Sheets



Related U.S. Application Data

(60) Provisional application No. 61/793,866, filed on Mar. 15, 2013.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2006/0085419	A1	4/2006	Rosen	
2006/0106780	A1	5/2006	Dagan	
2007/0073687	A1	3/2007	Terrill et al.	
2007/0073803	A1	3/2007	Terrill et al.	
2008/0196094	A1*	8/2008	Benschop	G06Q 20/10 726/5
2008/0294624	A1	11/2008	Kanigsberg et al.	
2008/0301118	A1	12/2008	Chien et al.	
2009/0106040	A1	4/2009	Jones	
2010/0125632	A1*	5/2010	Leonard	G06Q 10/10 709/204
2011/0087974	A1*	4/2011	Kulas	715/760
2011/0196927	A1*	8/2011	Vance	709/204
2012/0088524	A1*	4/2012	Moldavsky	G06Q 30/02 455/456.3
2014/0040368	A1*	2/2014	Janssens	709/204
2014/0074824	A1*	3/2014	Rad	G06Q 50/01 707/722

OTHER PUBLICATIONS

Response to Office Action Pursuant to 37 C.F.R. § 1.111 filed Nov. 23, 2011 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 12 pages.

USPTO, Final Office Action dated Jan. 6, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 15 pages.

Request for Continued Examination Transmittal and Amendment Filed with Request for Continued Examination filed May 7, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 17 pages.

USPTO, Non-final Office Action dated Oct. 2, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 10 pages.

Response to Office Action Pursuant to 37 C.F.R. § 1.111 filed Dec. 31, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 13 pages.

USPTO, Final Office Action dated Mar. 7, 2013 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 12 pages.

Response to Office Action Pursuant to 37 C.F.R. § 1.116 and Certification and Request for Consideration Under the After Final Consideration Pilot Program 2.0 filed Jun. 6, 2013 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 14 pages.

USPTO, Notice of Allowance and Fees Due dated Jun. 19, 2013 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 12 pages.

PCT Notification of Transmittal of the International Search Report and the Written Opinion of the International Searching Authority, or the Declaration with attached PCT International Search Report and Written Opinion of the International Searching Authority in International Application No. PCT/US08/87706, dated Feb. 10, 2009, 8 pages.

* cited by examiner

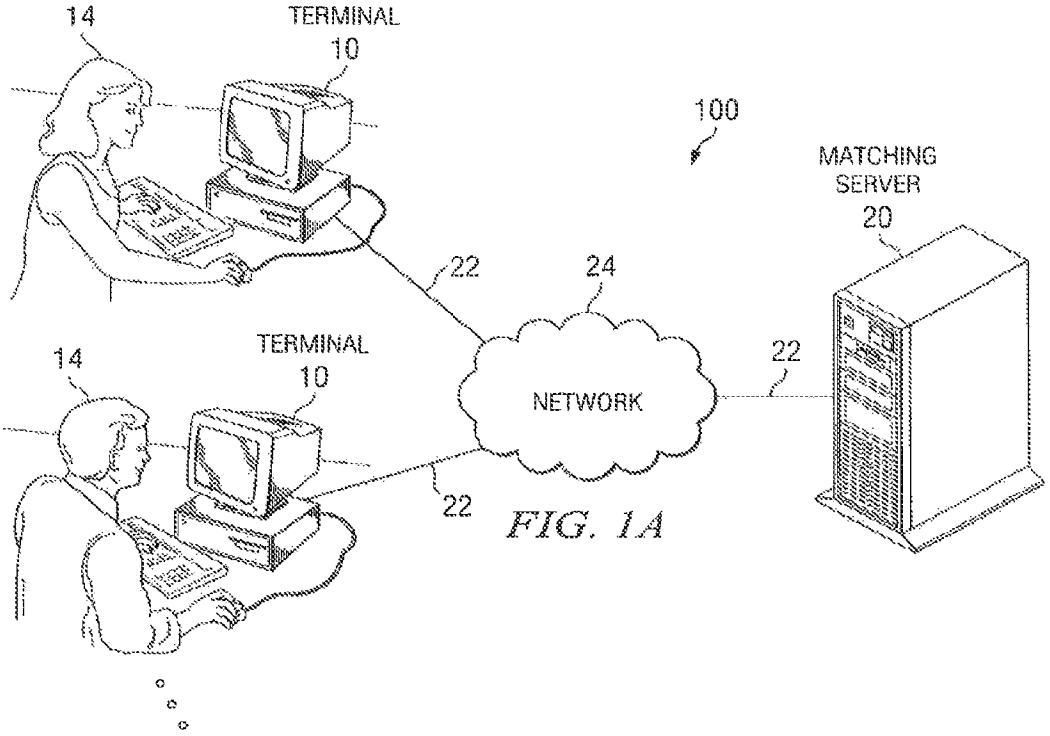


FIG. 1A

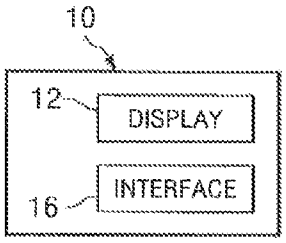


FIG. 1B

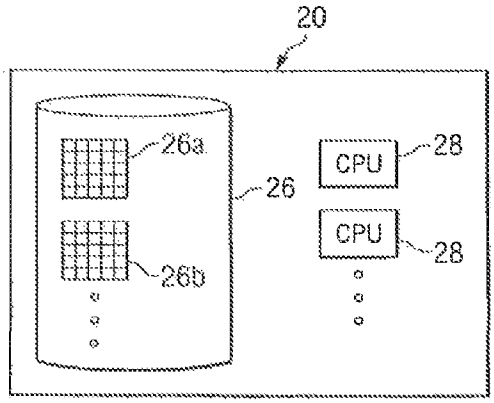


FIG. 1C

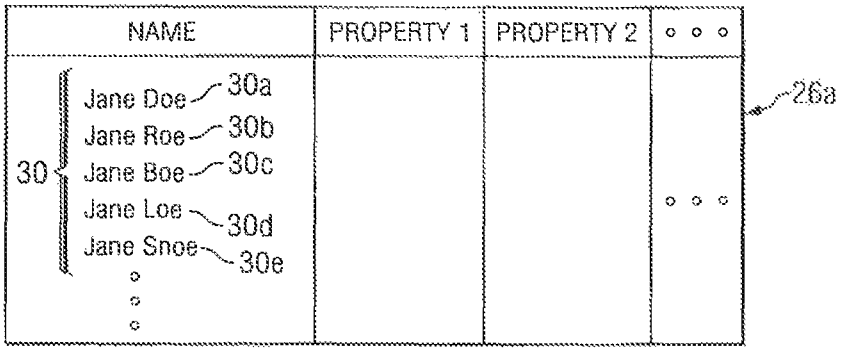


FIG. 1D

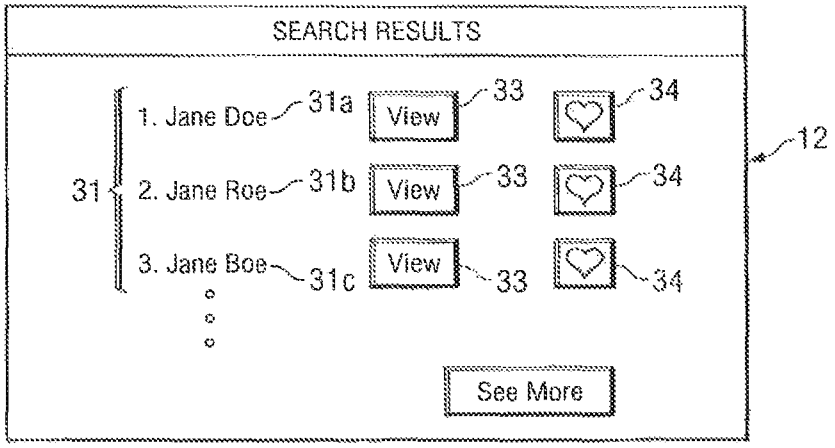


FIG. 1E

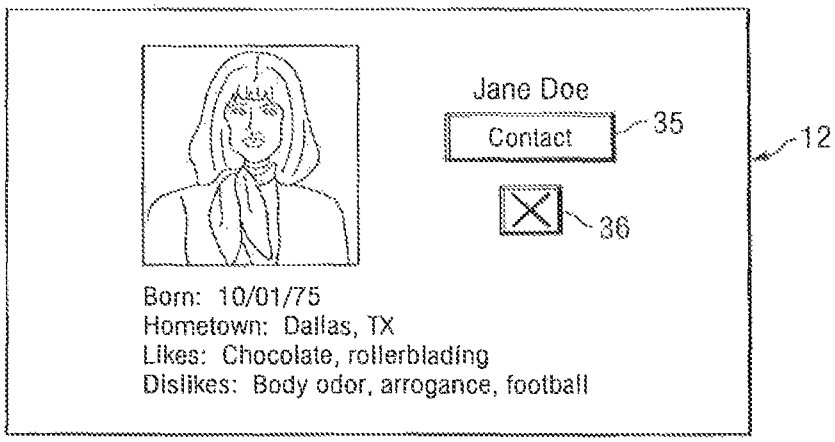


FIG. 1F

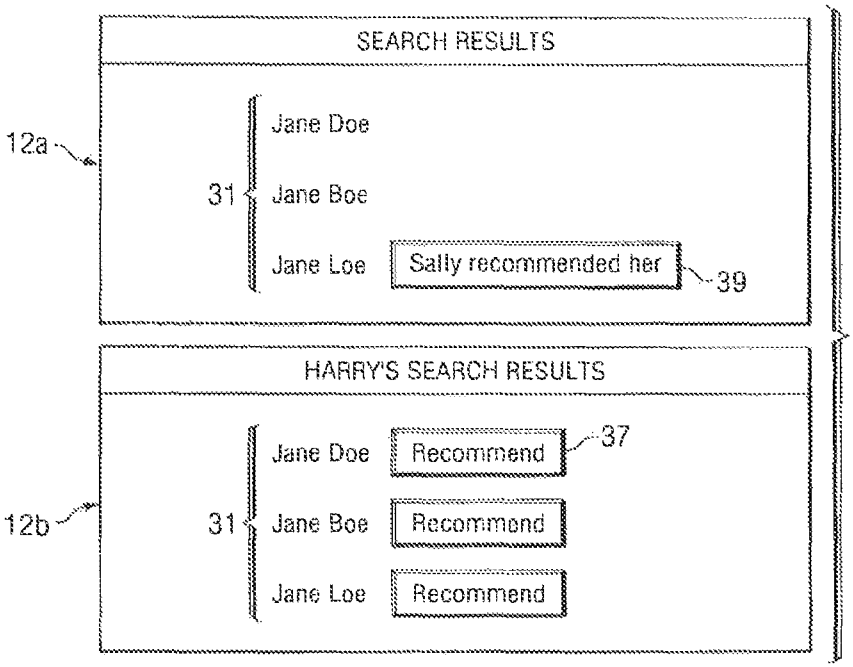

SEARCH RESULTS
12a
31
Jane Doe
Jane Boe
Jane Loe
Sally recommended her
39
HARRY'S SEARCH RESULTS
12b
31
Jane Doe
Recommend
37
Jane Boe
Recommend
Jane Loe
Recommend

FIG. 2

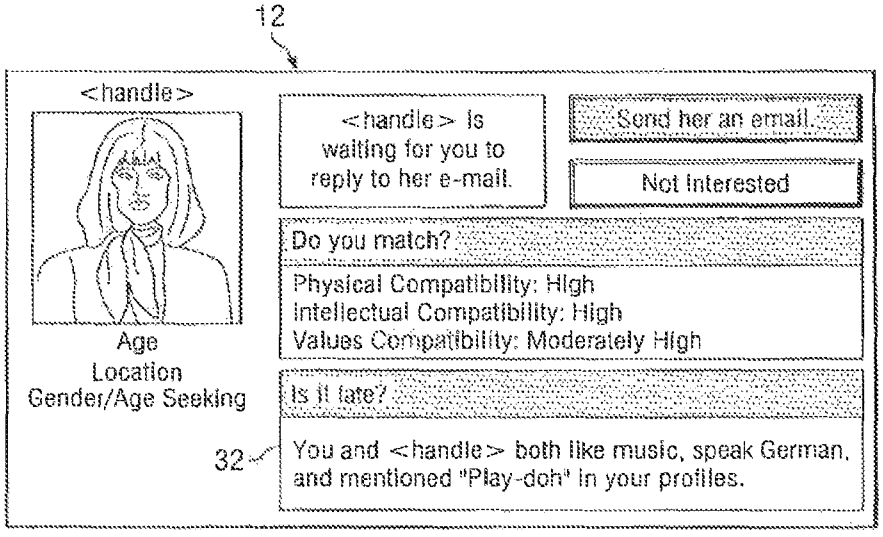

12
<handle>
<handle> is waiting for you to reply to her e-mail.
Send her an email.
Not interested
Do you match?
Physical Compatibility: High
Intellectual Compatibility: High
Values Compatibility: Moderately High
Age
Location
Gender/Age Seeking
Is it fate?
32
You and <handle> both like music, speak German, and mentioned "Play-doh" in your profiles.

FIG. 3

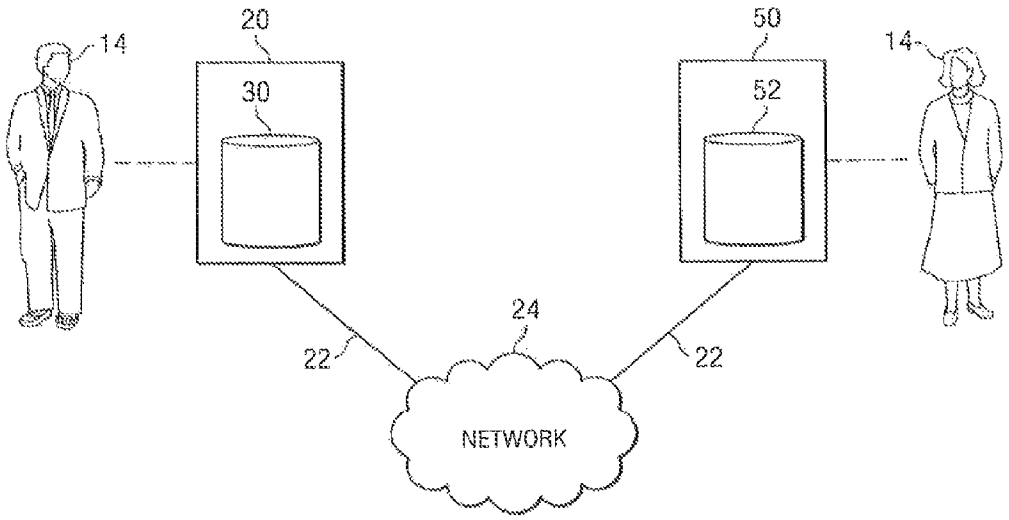

14
20
30
50
52
14
24
22
22
NETWORK

FIG. 4

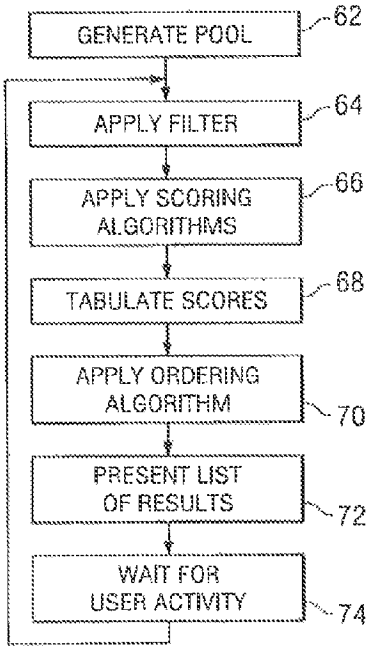

GENERATE POOL
62
APPLY FILTER
64
APPLY SCORING ALGORITHMS
66
TABULATE SCORES
68
APPLY ORDERING ALGORITHM
70
PRESENT LIST OF RESULTS
72
WAIT FOR USER ACTIVITY
74

FIG. 5

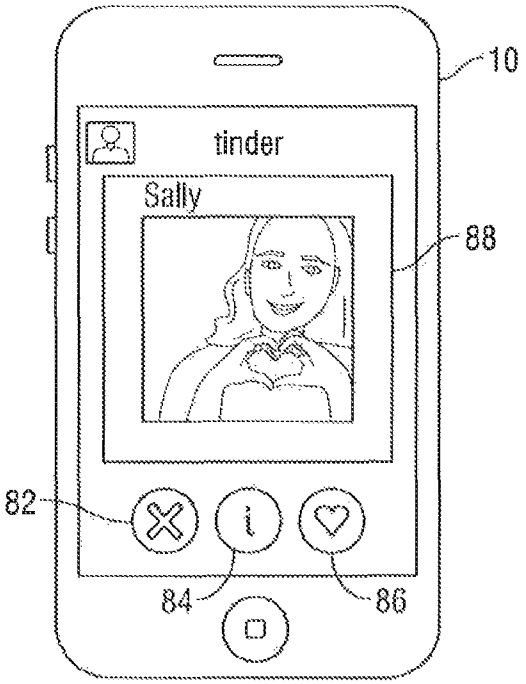


FIG. 6

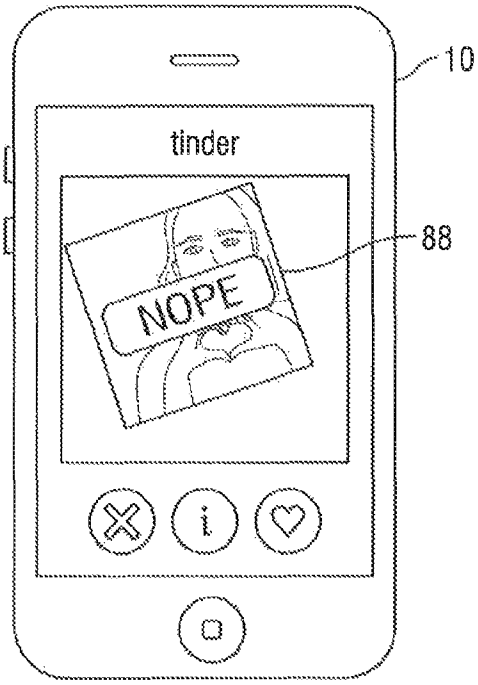


FIG. 7

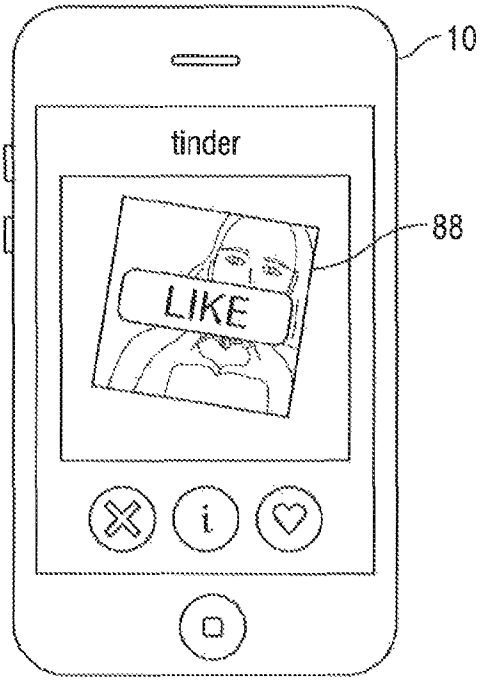


FIG. 8

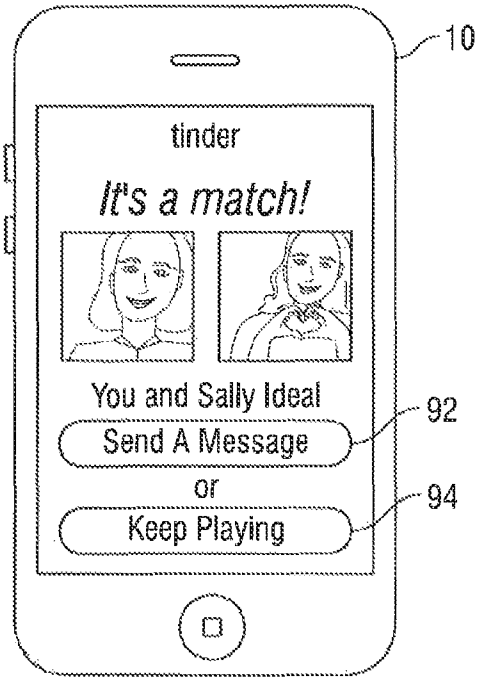


FIG. 9

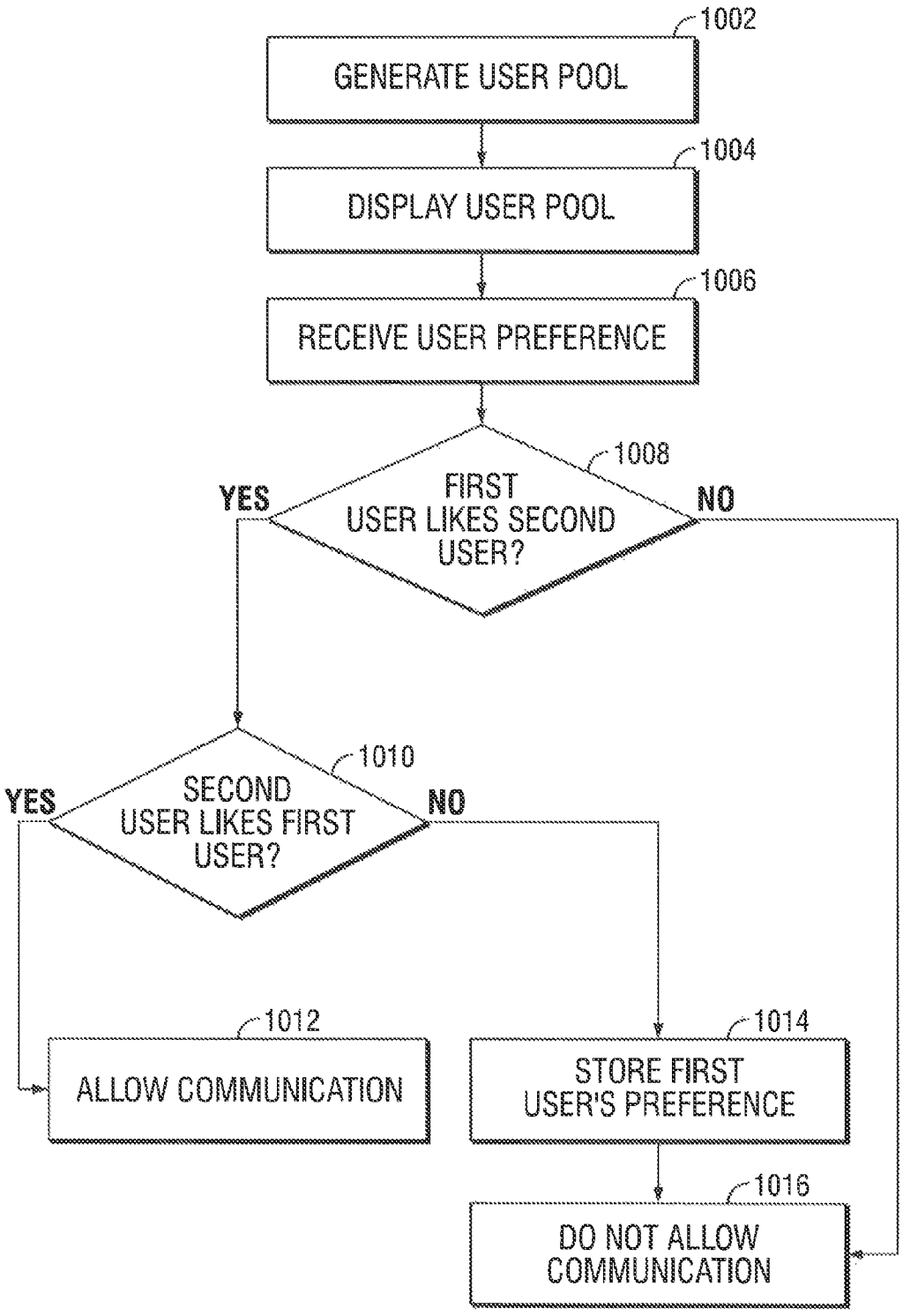

1002
GENERATE USER POOL
1004
DISPLAY USER POOL
1006
RECEIVE USER PREFERENCE
1008
FIRST USER LIKES SECOND USER?
YES
NO
1010
SECOND USER LIKES FIRST USER?
YES
NO
1012
ALLOW COMMUNICATION
1014
STORE FIRST USER'S PREFERENCE
1016
DO NOT ALLOW COMMUNICATION

FIG. 10

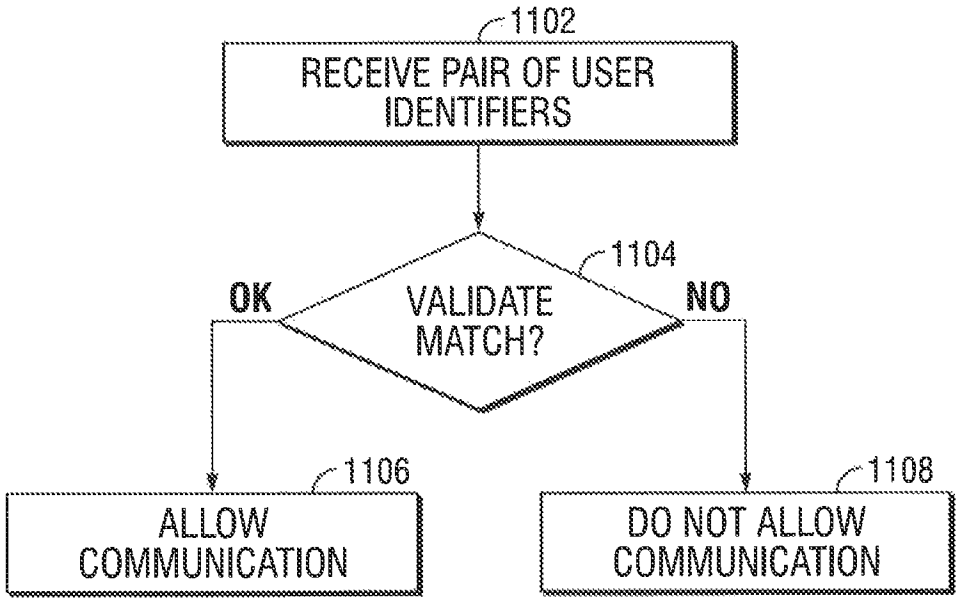

1102
RECEIVE PAIR OF USER IDENTIFIERS
1104
VALIDATE MATCH?
OK
NO
1106
ALLOW COMMUNICATION
1108
DO NOT ALLOW COMMUNICATION

FIG. 11

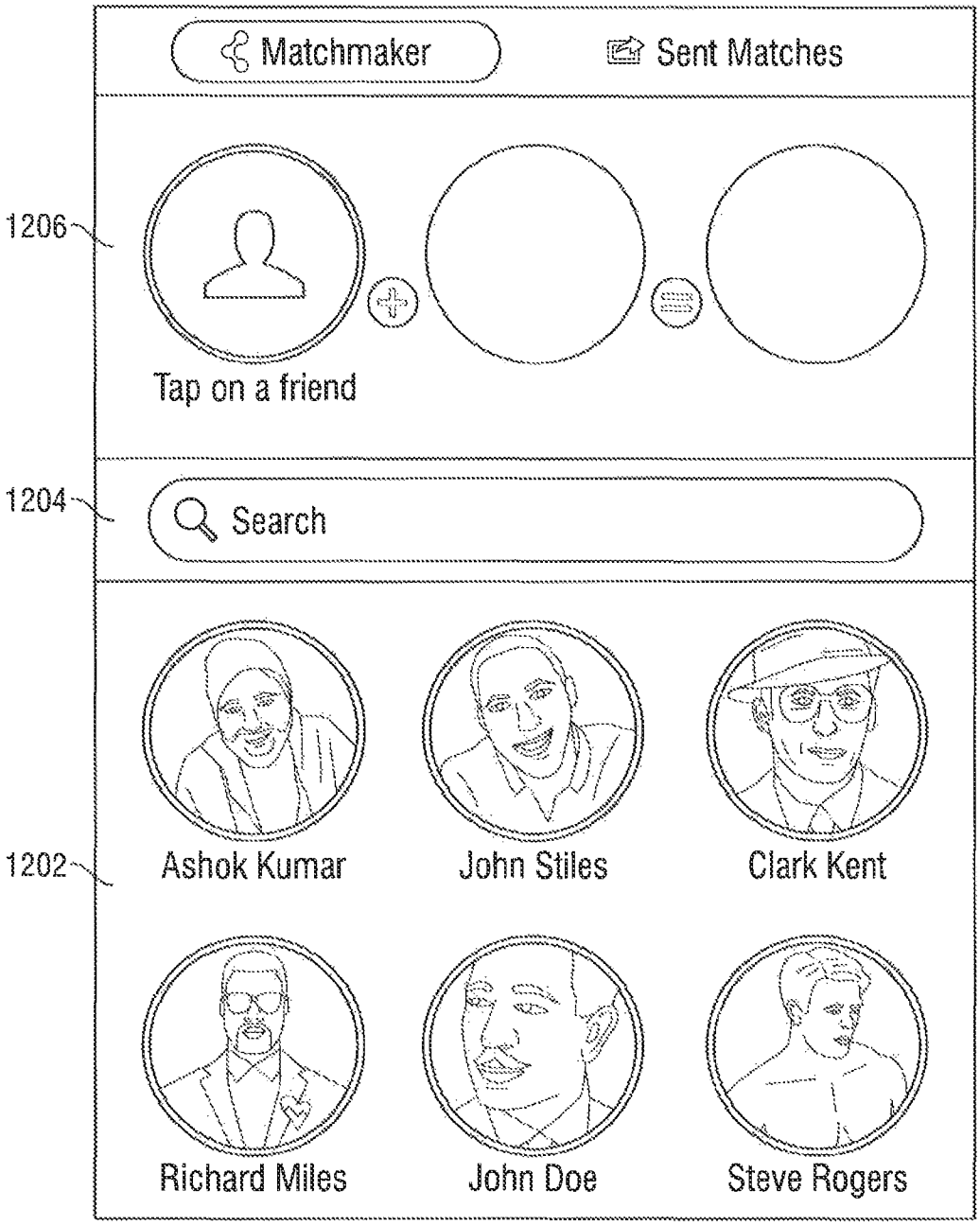

Matchmaker
Sent Matches
1206
Tap on a friend
1204
Search
1202
Ashok Kumar
John Stiles
Clark Kent
Richard Miles
John Doe
Steve Rogers

FIG. 12A

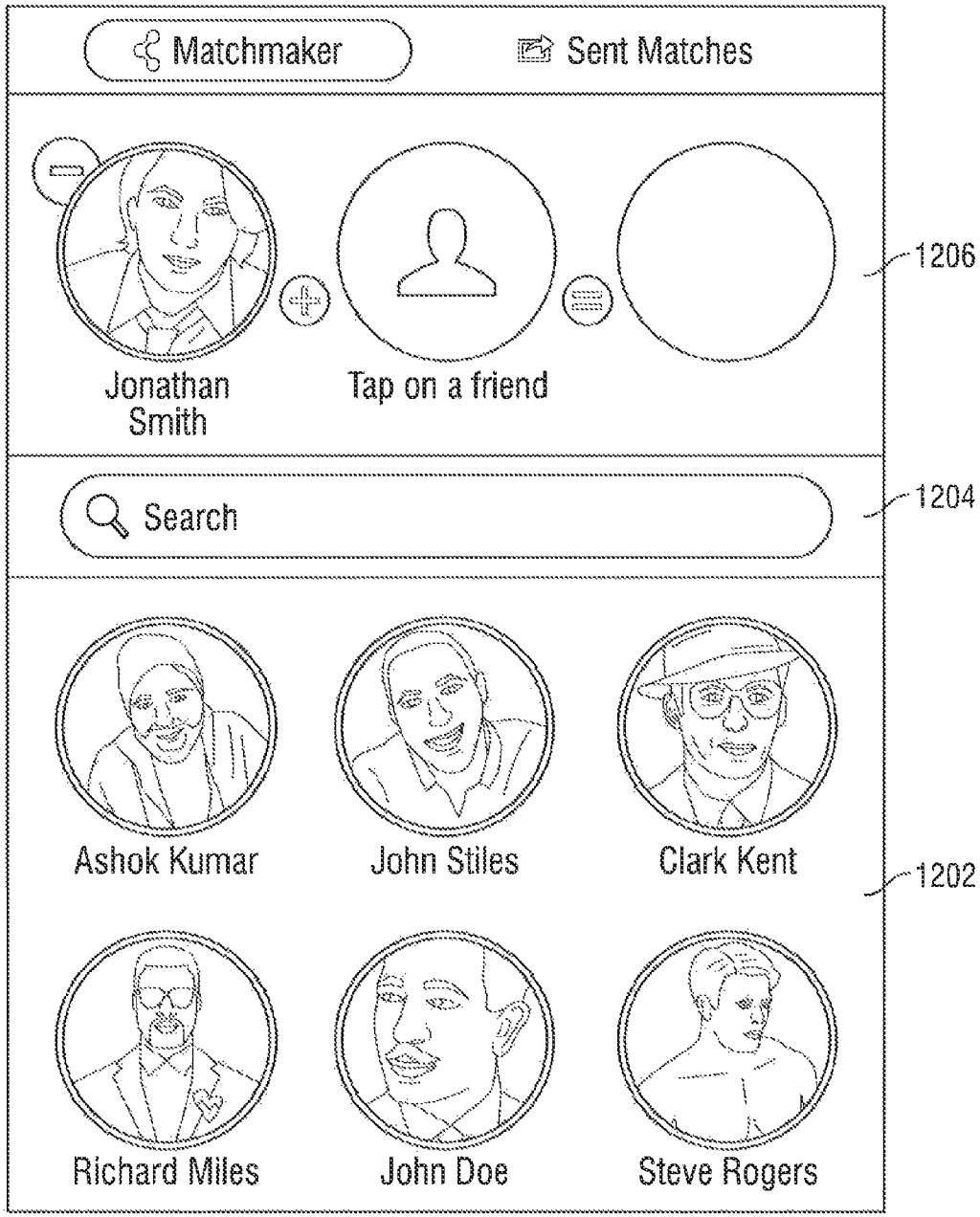

Matchmaker
Sent Matches
Jonathan Smith
Tap on a friend
1206
Search
1204
Ashok Kumar
John Stiles
Clark Kent
1202
Richard Miles
John Doe
Steve Rogers

FIG. 12B

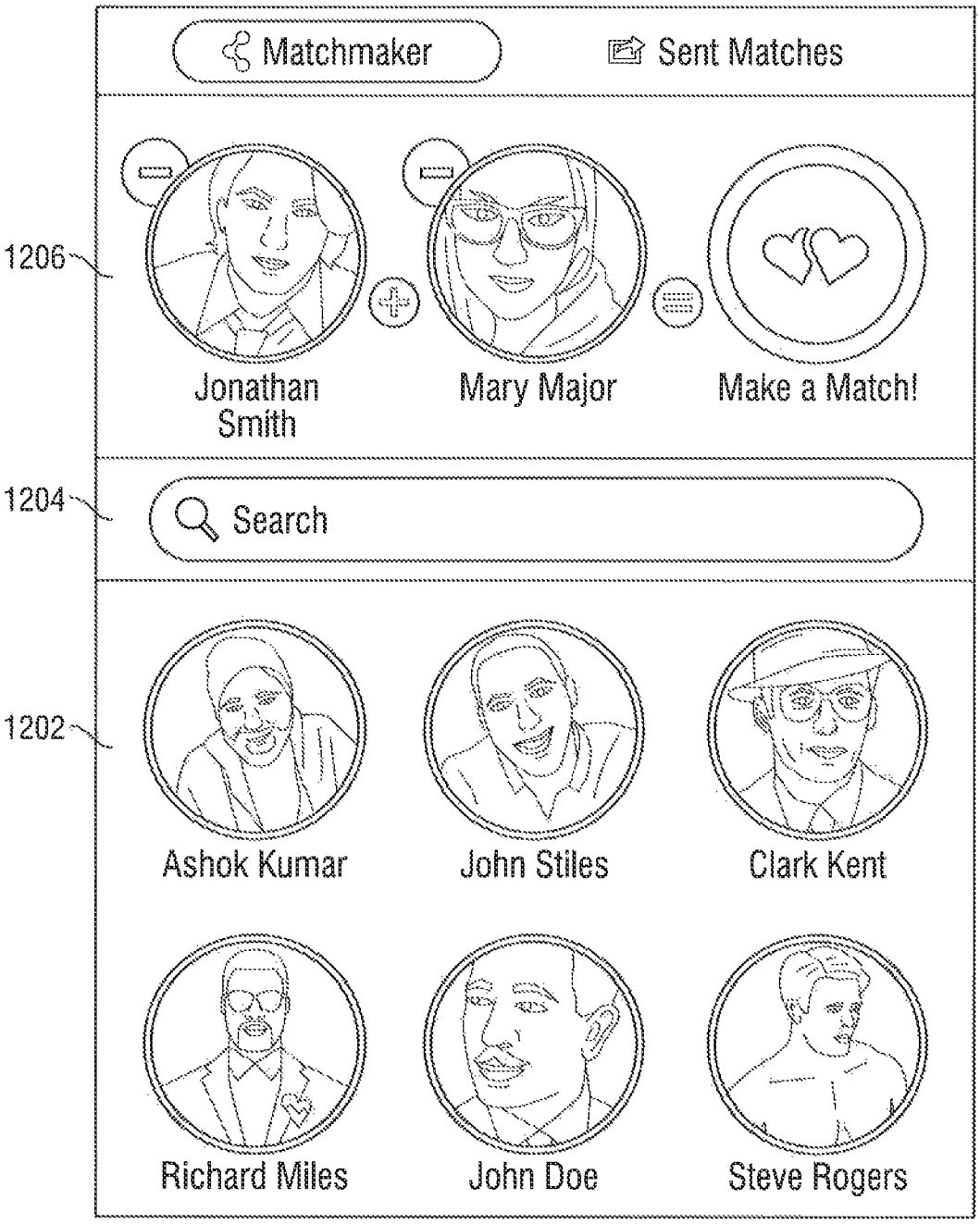

Matchmaker
Sent Matches
1206
Jonathan Smith
Mary Major
Make a Match!
1204
Search
1202
Ashok Kumar
John Stiles
Clark Kent
Richard Miles
John Doe
Steve Rogers

FIG. 12C

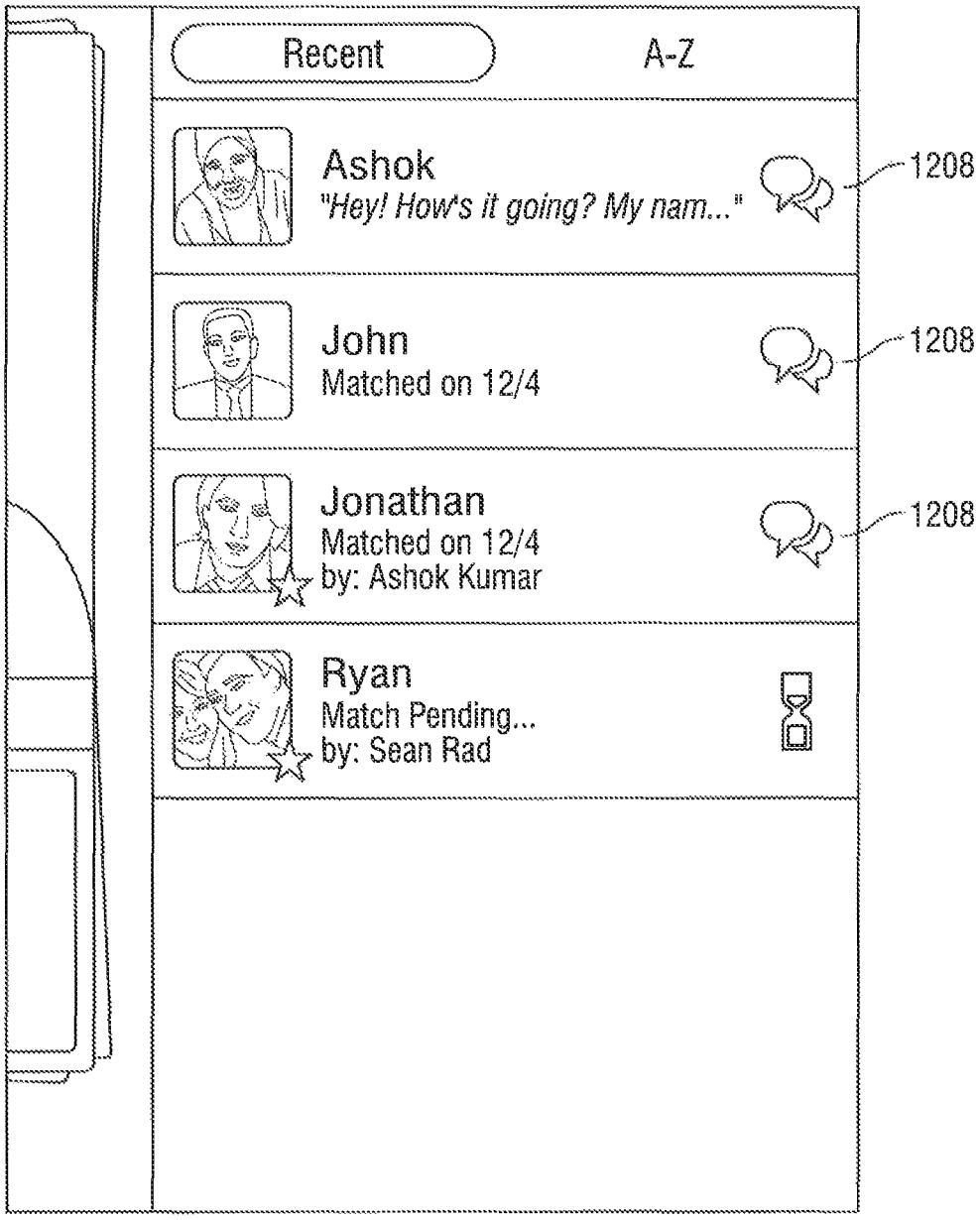

Recent
A-Z
Ashok
"Hey! How's it going? My nam..."
1208
John
Matched on 12/4
1208
Jonathan
Matched on 12/4
by: Ashok Kumar
1208
Ryan
Match Pending...
by: Sean Rad

FIG. 12D

MATCHING PROCESS SYSTEM AND METHOD

RELATED APPLICATION

This application is a continuation-in-part of Ser. No. 12/339,301, entitled "MATCHING PROCESS SYSTEM AND METHOD," filed Dec. 19, 2008.

This application claims benefit under 35 U.S.C. §119(e) to U.S. Provisional Application Ser. No. 61/793,866, entitled "SOCIAL MATCHING SYSTEM AND METHOD," filed Mar. 15, 2013.

TECHNICAL FIELD

This invention relates generally to computer matching systems and more particularly to a matching process system and method.

BACKGROUND

Networking architectures have grown increasingly complex in communications environments. In recent years, a series of protoc ols and configurations have been developed in order to accommodate a diverse group of end users having various networking needs. Many of these architectures have gained significant notoriety because they can offer the benefits of automation, convenience, management, and enhanced consumer selections.

Certain network protocols may be used in order to allow an end user to conduct an on-line search of candidates to fill a given vacancy. These protocols may relate to job searches, person finding services, real estate searches, or on-line dating. While some believe that on-line dating is simply a matter of matching supply and demand, there is statistical and empirical evidence to suggest that successful on-line dating entails far more.

For example, people having similar and/or compatible character traits and values should be matched together. However, effectively linking two participants together can prove to be a challenging endeavor. Coordinating a relationship between two like-minded individuals can be a significant chore, as there are a number of obstacles and barriers that must be overcome.

One problem that has arisen is that matching services are limited to searching for matches only within their own platform. Thus, only people who have gone through the process of signing up for the service are searched for a match. One solution to this problem is to have users register in multiple services. This is problematic because it can be expensive and time consuming for users. Further, the user must then visit all of the services to monitor the search progress: this inefficiency may cause users to give up on the search process.

Another problem is that the search results of these services contain many irrelevant entities to the searcher. This costs the user of the service time and may deter them from continuing through all of the search results.

Another problem is that large numbers of unwanted communication requests can become a nuisance to the user. Too many nuisance requests may deter the user from further use of the system. Users with the most attractive profiles are oftentimes the ones that receive the most unwanted attention. If the users with the most attractive profiles cease to use the system, the quality of the user pool deteriorates,

SUMMARY

In one embodiment, a method for profile matching comprises receiving a plurality of user profiles, each user profile comprising traits of a respective user. It also comprises receiving a preference indication for a first user profile of the plurality of user profiles. It further comprises determining a potential match user profile of the plurality of user profiles based on the preference indication for the first user profile. The method also comprises presenting the potential match user profile to a second user.

Receiving a preference indication for a first user profile may include receiving from a third user a recommendation of the first user profile for the second user. It may also include receiving from the second user a preference indication for the first user profile. The method may further include determining a score of a third user profile of the plurality of user profiles as a potential match for the second user. It may also include altering the score of the third user profile based on the preference indication for the first user profile.

In another embodiment, a method for profile matching comprises receiving a plurality of user profiles, each user profile comprising traits of a respective user. The method further comprises receiving a request for matches from a first user, the first user associated with a first user profile. The method also comprises scoring the plurality of user profiles for potential matching with the first user based on comparisons of the plurality of user profiles with the first user profile. It also comprises identifying a second user profile of the plurality of user profiles as a potential match for the first user based on the scoring. The method further comprises identifying commonality between a third user profile of the plurality of user profiles and the second user profile. In addition, the method comprises presenting to the first user the third user profile as a potential match for the first user.

Depending on the specific features implemented, particular embodiments may exhibit some, none, or all of the following technical advantages. Various embodiments may be capable of dynamically updating match search results based on user activity. Some embodiments may be capable of enhancing match search results by reducing the impact of restrictive user preferences. In addition, some embodiments may provide the ability to evaluate the attractiveness of potential matches. Various embodiments may be capable of importing user profiles from other social-networking systems. Some embodiments may be capable of generating the pool of users based on both explicit and implicit criteria derived from other social networking systems. Other technical advantages will be readily apparent to one skilled in the art from the following figures, description and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Reference is now made to the following description taken in conjunction with the accompanying drawings, wherein like reference numbers represent like parts, and which:

FIG. **1**A is an overview of one embodiment of the matching system;

FIG. **13** shows the contents of the terminal from FIG. **1**A;

FIG. **1**C shows the contents of the matching server from FIG. **1**A;

FIG. **1**D is a diagram of a database from FIG. **1**C showing one embodiment of how a matching server stores a pool;

FIG. **1**E is a diagram of the display from FIG. **1**B showing one embodiment of the presentation of search results to a user;

FIG. **1**F is a diagram of the display from FIG. **1**B showing one embodiment of the presentation of details of a match result entity to a user;

FIG. **2** is a diagram depicting how a user may recommend an entity to another user, in accordance with a particular embodiment;

FIG. **3** is a diagram of the display from FIG. **1**B depicting how the user may be made aware of fate characteristics the user shares with a match result entity, in accordance with a particular embodiment;

FIG. **4** is a diagram depicting how two platforms may be searched for a match, in accordance with a particular embodiment;

FIG. **5** is a flow chart indicating how a result list may be generated, in accordance with a particular embodiment;

FIG. **6** shows one embodiment of the matching system displaying to a user the profile information of a second user;

FIG. **7** is a diagram of the display from FIG. **6** showing the effect of a left swipe gesture;

FIG. **8** is a diagram of the display from FIG. **6** showing the effect of a right swipe gesture;

FIG. **9** shows the matching system displaying a match of a first user and a second user, in accordance with a particular embodiment;

FIG. **10** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a mutual expression of approval, in accordance with a particular embodiment;

FIG. **11** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a user suggested matching proposal, in accordance with a particular embodiment; and

FIGS. **12**A-D depict embodiments of a user interface.

DETAILED DESCRIPTION

Referring to FIG. **1**A, one embodiment of a matching system is shown. FIG. **1**A is a simplified block diagram of a system **100** for facilitating an on-line dating scenario in a network environment. In other embodiments, system **100** can be leveraged to identify and to evaluate suitable candidates in other areas (e.g. hiring/employment, recruiting, real estate, general person searches, etc.). Users **14** interact with a matching server **20** through terminals **10**. FIG. **1**B is a diagram showing, in one embodiment, the contents of terminal **10**. Terminal **10** comprises interface **16** (so that user **14** may be able to interact with terminal **10**) and display **12**. FIG. **1**C is a diagram showing, in one embodiment, the contents of matching server **20**. Matching server **20** comprises memory **26** and at least one CPU **28**. Memory **26** may store multiple databases, such as databases **26***a* and **26***b*. Terminal **10** and matching server **20** are communicatively coupled via network connections **22** and network **24**.

Users **14** are clients, customers, prospective customers, or entities wishing to participate in an on-line dating scenario and/or to view information associated with other participants in the system. Users **14** may also seek to access or to initiate a communication with other users that may be delivered via network **24**. Users **14** may review data (such as profiles, for example) associated with other users in order to make matching decisions or elections. Data, as used herein, refers to any type of numeric, voice, video, text, or script data, or any other suitable information in any appropriate format that may be communicated from one point to another.

In one embodiment, terminal **10** represents (and is inclusive of) a personal computer that may be used to access network **24**. Alternatively, terminal **10** may be representative of a cellular telephone, an electronic notebook, a laptop, a personal digital assistant (PDA), or any other suitable device (wireless or otherwise: some of which can perform web browsing), component, or element capable of accessing one or more elements within system **100**. Interface **16**, which may be provided in conjunction with the items listed above, may further comprise any suitable interface for a human user such as a video camera, a microphone, a keyboard, a mouse, or any other appropriate equipment according to particular configurations and arrangements. In addition, interface may be a unique element designed specifically for communications involving system **100**. Such an element may be fabricated or produced specifically for matching applications involving a user.

Display **12**, in one embodiment, is a computer monitor. Alternatively, display **12** may be a projector, speaker, or other device that allows user **14** to appreciate information that system **100** transmits.

Network **24** is a communicative platform operable to exchange data or information emanating from user **14**. Network **24** could be a plain old telephone system (POTS). Transmission of information emanating from the user may be assisted by management associated with matching server **20** or manually keyed into a telephone or other suitable electronic equipment. In other embodiments, network **24** could be any packet data network offering a communications interface or exchange between any two nodes in system **100**. Network **24** may alternatively be any local area network (LAN), metropolitan area network (MAN), wide area network (WAN), wireless local area network (WLAN), virtual private network (VPN), intranet, or any other appropriate architecture or system that facilitates communications in a network or telephonic environment, including a combination of any networks or systems described above. In various embodiments, network connections **22** may include, but are not limited to, wired and/or wireless mediums which may be provisioned with routers and firewalls.

Matching server **20** is operable to receive and to communicate information to terminal **10**. In some embodiments, matching server **20** may comprise a plurality of servers or other equipment, each performing different or the same functions in order to receive and communicate information to terminal **10**. Matching server **20** may include software and/or algorithms to achieve the operations for processing, communicating, delivering, gathering, uploading, maintaining, and/or generally managing data, as described herein. Alternatively, such operations and techniques may be achieved by any suitable hardware, component, device, application specific integrated circuit (ASIC), additional software, field programmable gate array (FPGA), server, processor, algorithm, erasable programmable ROM (EPROM), electrically erasable programmable ROM (EEPROM), or any other suitable object that is operable to facilitate such operations.

In some embodiments, user **14**, using terminal **10**, include user **14** submitting information to matching server **20** about user **14** as well as characteristics user **14** is seeking to be matched with. Such information may include a user handle, which may be a combination of characters that uniquely identifies user **14** to matching server **20**. In various embodiments, matching server **20** may be configured to collect this information; for example, matching server **20** may be configured to ask user **14** to respond to a series of questions. Matching server **20** may be configured to receive the information submitted by user **14** and create a profile for user **14** based on that information, storing the profile in memory **26**.

As an example only, consider a case where user **14** is interested in participating in an on-line dating scenario. User **14** can access the Internet via terminal **10**, travel to a web site managed by matching server **20**, and begin, the regis-

tration process. As part of the registration process, matching server **20** may ask user **14** a series of questions which identifies characteristics about user **14**. Thus, matching server **20** may ask about the height, weight, age, location, and ethnicity of user **14**. It may also ask about the birthplace, parents, eating habits, activities, and goals of user **14**. Matching server **20** may further use the registration process to discover what user **14** may be looking for in a match, such as age, weight, height, location, ethnicity, diet, education, etc. Further, matching server **20** may ask user **14** to indicate how important certain factors are when looking for a match. For example, matching server **20** may allow the user to indicate which characteristics in a potential match are a necessity. In another example, matching server **20** may ask, "How important is it that your match does not smoke?" Matching server **20** may also allow the user to indicate that certain characteristics are not important search criteria. For example, when asking user **14** about what height or weight user **14** is seeking in a match, matching server **20** may be configured to receive "not important" as a response. In vet another example, matching server **20** may allow user **14** to rate which factors are important on a numerical scale. For example, matching server **20** may ask user **14** the following: "On a scale of 1-10, how important is it that your match has the same education level as you?" In some embodiments, matching server **20** may specify that any number of questions or requested descriptions are necessary before registration may be concluded. As an example only, matching server **20** may require that user **14** communicate the sex of user **14** and the sex user **14** prefers to be matched with. After concluding the registration process, matching server **20** may store the responses of user **14** as a profile. This same process may be repeated by several different users **14**, causing matching server **20** to contain a plurality of profiles.

FIG. **1**D depicts an embodiment in which matching server **20** has a database **26***a* which contains a pool **30**. Each entry in database **26***a* has a pool entity **30***a* along with information concerning that entity. In one embodiment, each pool entity **30***a-e* represents a user and their profile. In some embodiments, not all registered users are in pool **30**. As discussed further below, matching server **20** may use a selection process for including stored profiles in pool **30**. As depicted in FIG. **1**D, in this embodiment, the collection of users and profiles forms pool **30** through which matching server **20** may perform various functions such as searches for matches.

Matching server **20** may be configured to search through pool **30** and present matches to user **14**. In FIG. **1**E, one embodiment of this presentation is depicted as occurring through display **12**. In various embodiments, matches may be presented to user utilizing other communication schemes, such as electronic messages (i.e., e-mail) or text messages (i.e., utilizing SMS). In the depicted embodiment, a result list **31** is presented to user **14**. A match result entity **31***a* in a result list **31** may be associated with a view button **33**. Using interface **16**, user **14** may request that matching server **20** provide more information about an entity in result list **31** by pressing the associated view button **33**. Matching server **20** may then communicate to user **14** more information about that entity by retrieving the information from memory **26**. In FIG. **1**F, one embodiment of information that matching server **20** provides for user **14** is shown. Using display **12**, user **14** views an entity from result list **31**. Matching server **20** may also provide user **14** with the ability to contact the entity through a contact button **35**. In one embodiment, when contact button **35** is utilized by user **14**, matching server **20** may provide user **14** with contact information of the entity such as a telephone number or an e-mail address; in another embodiment, matching server **20** may provide user with a way to directly contact the entity, such as sending a message or providing voice or video communication between user **14** and the entity. Even further, matching server **20** may be configured to allow user **14** to express a negative preference for the entity through dislike button **36**. In one embodiment, when, for example, dislike button **36** is utilized by user **14**, matching server **20** may remove the entity from result list **31**; in another embodiment, the entity may be removed from pool **30** of users from which matches are identified.

As an example only, consider that user **14** has submitted a search request to matching server **20**. Matching server **20** may search through pool **30**, identify results, and communicate result list **31** to user **14** which would contain other users for whom matching server **20** had created a profile and who were identified through a search and selection process. Next, user **14** may be interested in learning more about Jane Doe, entity **31***a*; thus, user **14** would click view button **33** associated with Jane Doe. Matching server **20** would receive this request and respond by displaying Jane Doe's profile (stored in memory **26**), as depicted in FIG. **1**F. Next, after reading the profile, user **14** may be interested in contacting Jane Doe; hence, user **14** would click contact button **35**. Matching server **20** would respond by allowing user **14** enter a message that matching server **20** would then communicate to Jane Doe.

Matching server **20** may even further be configured to allow user **14** to store a match result entity; in one embodiment, the system may be configured to allow user **14** to utilize favorite button **34** that will add the desired match result entity into another list. In another embodiment, utilizing favorite button **34** will remove the associated match result entity from result list **31**.

As an example only, user **14** may decide that he would like to save Jane Doe's profile so that he can review it later. User **14** may click favorite button **34**, and matching server **20** may respond by placing Jane Doe's profile into a separate list. Further, matching server **20** may also remove Jane Doe from user's **14** result list **31**. As a result, user **14** may see another match result entity populate result list **31**. This is beneficial because it may focus user **14** on evaluating new entities rather than reevaluating previously-known entities because the entities still appear in result list **31**.

In some embodiments, matching server **20** may be configured to generate pool **30** by default according to various characteristics and preferences of user **14** and other users of the system. Matching server **20** may also restrict entities from being included in pool **30** based on the status of the profile, or if user **14** has rejected or blocked an entity. Matching server **20** may also restrict entities from the pool that have blocked or rejected user **14**. For example, matching server **20** may not allow profiles that are not in good standing to be included in pool **30**. In other embodiments, matching server **20** may be configured to generate pool **30** by first choosing seeds. Seeds include, but are not limited to, profiles that user has sent a message to or profiles that user **14** has expressed a preference for. Each seed is then compared to other entities to determine which entities will be included in pool **30**. Any suitable method can be used to determine which entities are included in pool **30**. For example, any characteristics or algorithms described herein may form the basis of such a determination. As another example, a commonality score may be generated based on the comparison between each entity and the seed. In some embodiments, this commonality score can be a measure of how physically similar the users are to each other. This score

may be generated based on the number of users that have expressed a positive preference for both the seed and the entity being compared. This score may also be generated based on whether the seed and entity have been viewed together in one session; further, the more times the seed and entity have been viewed together, the larger the commonality score. The law of large numbers may allow for a vast amount of such commonalties to be established over a few days. Testing has revealed that using such commonality scoring methods has yielded at least one physical match for 80% of users whose profile has been viewed at least once, and between and 1000 physical matches for 60% of users whose profile has been viewed at least once. Matching server **20** may be further configured to allow entities that have a commonality score above a certain threshold to become a part of pool **30**. Matching server **20** may further be configured to update pool **30**. In some embodiments, matching server **20** may do so by creating new seed entities based on activity by user **14**, such as indicating a preference for that entity. Further, matching server may then compare the chosen seed entity with other profiles stored in matching server **20** and determine whether those profiles will be included in pool **30** using a threshold score as described above. At least one advantage realized by this embodiment is that user **14** is presented with updated potential matches which increases the likelihood of user **14** finding a suitable match. Another advantage present in certain embodiments is that these updated potential matches have a greater likelihood of compatibility with user **14** since they are chosen based on their commonality with entities user **14** has expressed a preference for.

As an example only, consider the case in which user **14** has registered, requested a search, and received from matching server **20** results list **31**. Then, user **14** decides to contact Jane Doe and presses contact button **35**. Aside from providing user **14** with the ability to contact Jane Doe, matching server **20** will designate Jane Doe's profile as a seed. Matching server **20** will then compare Jane Doe's profile to other profiles stored in memory **26** in order to identify other users who may be similar to Jane Doe and thus be a good match for user **14**. In this example, matching server **20** will generate a commonality score for each of these comparisons and compare these scores to a preset threshold. If the commonality score is lower than the threshold, that profile will not be added to pool **30**. However, if the commonality score is higher than the threshold, matching server **20** will add this profile to pool **30**. As an example, further assume that the seed, Jane Doe, is being compared to another entity, Susan Smith. Based on the fact that both Susan and Jane have three users (Tom, Dick, and Harry) who have expressed a positive preference for their profiles, matching server **20** generates a commonality score of 100 for the comparison. In contrast, matching server **20** generated a commonality score of 50 for the comparison between the seed (Jane Doe) and yet another entity, Lucy Goosey. This was because only one user (Bob) had indicated a positive preference toward both Lucy and Jane. Continuing the example, matching server **20** is using a commonality threshold score of 70, which results in including Susan's profile (whose commonality score was greater than the threshold score) in pool **30** and excluding Lucy's (whose commonality score was less than the threshold score). Thus, user **14** gets the benefit of having more entities identified that may be good matches.

In some embodiments, matching server **20** may be configured to include behavioral scales. These may include multi-item scales for materialism and gender-role traditionalism. Such scales may provide the advantage of improved matching through deeper appreciation for the personality of entities in the system.

In some embodiments, matching server **20** may be configured to analyze profile text for categories. It may search for a number of text strings and then associate the profile with any number of categories. As an example only, matching server **20** may add any profile to the Cat category whose text contains any of the following strings:

"cat" "cats" "cat." "cats." "cat," "cats,"

Matching server **20** may be configured to make it more likely that a profile will be in a result list if categories associated with the profile are also categories found in the user's profile who submitted the search request.

Matching server **20** may be configured to analyze one or more portions of the text of an entity's profile and generate a readability score that may be used in various ways, such as in the process of searching for matches for user **14**. In some embodiments, matching server **20** may analyze factors such as, but not limited to; average number of words per sentence, total number of words with greater than three syllables, and total number of words in the profile. Matching server **20** may also concatenate all of the collected responses with a single space between them. It may further break the text into sentences, words, and syllables. From these statistics, matching server **20** may also be configured to generate a readability score by, in one embodiment, taking the average of the Flesch Kincaid Reading Ease test, the Flesch Kincaid Grade Level test, and the Gunning Fox score. Other embodiments may utilize any other combination of these or other tests to determine a readability score. In some embodiments, analyses may be used to determine the IQ of an entity, the grade level of the writing, or how nervous the entity generally is. An advantage of this embodiment may be that the system provides user **14** with a metric for determining approximate intelligence of other users. The readability score may be used, for example, in the matching process to identify potential matches.

As an example only, the Flesch Kincaid Reading Ease score may be generated by first computing the following intermediate score:

206.835−(1,015*[Average Words per Sentence])−(84.6*[Average Syllables per Word])

Then, the Flesch Kincaid Reading Ease score is determined by using the following table:

Intermediate Score Condition	Flesh Kincaid Reading Ease Score
<100	4
<91	5
<81	6
<71	7
<66	8
<61	9
<51	10
<31	13
<0	14
Else	15

The Flesch Kincaid Grade Level may be computed according to the following

(0.39*[Average Words Per Sentence])+(11.8*[Average Syllables Per Word])−15.59

The Gunning Fox score may be computed according to the following:

([Average Words Per Sentence]+(([Number Of Words With More Than 3 Syllables]/[Number of Words In Entire Text])+100))*0.4

As indicated, any suitable tests may be utilized in any suitable manner to determine a readability score.

In some embodiments, matching server **20** may be configured to allow a user to interact with the result list of another user. Matching server **20** may be configured to allow a user to express a preference for entities within a result list of another user, and to indicate to the other user of this preference. Thus, a user may be able to get advice from a friend regarding what other users may constitute good matches for the user and thus be able to find a better match.

As an example only, consider FIG. **1**A and FIG. **2**. Two users **14**, Harry and Sally, are connected to matching server **20** via terminals **10**. Display **12***a* is used by Harry while display **12***b* is used by Sally. Matching server **20** allows Sally to view Harry's result list **31** on her terminal in display **12***b*. By pressing recommend button **37**. Sally may indicate a preference for one or more of the entities in result list **31**. Assume Sally presses recommend button **37** associated with Jane Joe. After doing so, matching server **20** will notify Harry of Sally's preference. On Harry's display **12***a*, matching server **20** will cause notification **39** to appear, associating it with Jane Joe. Notification **39** will indicate to Harry that Sally has recommended Jane Los as a potential match. Harry may find Sally's preference helpful in determining which entities he should pursue further if, for example, he believes Sally understands the type of person he is looking for.

In one embodiment, matching server **20** may be configured to analyze the profiles of both user **14** and the entities in pool **30** for keywords. Matching server **20** may be configured to search through the profile of user **14** for keywords that relate to things such as activities and interests. Matching server **20** may generate a score for each entity in pool **30** based on a comparison between the list of keywords found in user's **14** profile and a similarly-generated list of keywords of each entity in pool **30**. In one embodiment, this is accomplished by storing a list of words in memory **26**, and using it to identify keywords in the searched profiles. In some embodiments, identified keywords may be used as a means of weighting various scores. As an example only, a profile that contains the word "God" may be weighted much differently than a profile which has merely indicated that their religious preference is Christian. In various embodiments, this may provide an advantage to user **14** in that user **14** is able to determine how similar he/she is with a potential match. In addition, the keyword analysis may be used by the system when searching and identifying matches for a user.

As an example only, consider two registered users, Harry and Sally, both of whom have profiles stored in matching server **20**. Matching server **20** then analyzes each of these profiles by comparing it to a list of predefined keywords. Matching server **20** then associates each word that matched the list of keywords with each profile. Now assume that Harry performs a search. While fulfilling Harry's query, matching server **20** evaluates Sally's profile for inclusion in Harry's result list **31**. This evaluation includes comparing the list of keywords found in Harry's profile to the keywords found in Sally's profile. The more keywords that Harry and Sally have in common, the more likely it will be that matching server **20** will include Sally's profile in Harry's result list **31**.

In some embodiments, matching server **20** may be configured to impute a level of physical attractiveness to an entity in pool **30**. Matching server **20** may be configured to monitor how frequent an entity in pool **30** has been viewed as well as how many times that entity has been part of a result list in order to impute the level of physical attractiveness. Matching server **20** may further be configured to generate a score based on this data. Further, in some embodiments, matching server **20** may impute physical attractiveness to an entity based on the imputed physical attractiveness scores of other entities. Matching server **20** may compute an average of the imputed physical attractiveness scores of the other entities weighted by the commonality score between each of the other entities and the present entity. Empirical data indicates that people are more likely to match with people of similar attractiveness. Thus, in many embodiments, a user may obtain an advantage in that they are able to be presented with potential matches that, according to one measurement, are as attractive as the user.

As an example only, consider a registered user, Sally, whose profile was created by matching server **20** in January. Since that time, matching server **20** has recorded the number of times Sally's profile has appeared in any user's result list **31**; assume that this has occurred 10 times. Further, matching server **20** has also recorded the number of times a user has viewed Sally's profile by clicking view button **33** associated with Sally's profile; assume that this has happened 5 times. In this manner, matching server **20** has constructed a ratio that represents the imputed physical attractiveness of Sally's profile. Still further, assume that Harry, a registered user, now submits a query. Matching server **20** has evaluated the imputed physical attractiveness ratio of Harry's profile. When evaluating Sally's profile for inclusion in result list **31** returned to Harry, matching server **20** will compare the imputed physical attractiveness of Sally's profile and Harry's profile. The more similar the ratios associated with Harry and Sally's profiles are to each other, the more likely it is that Sally's profile will be selected by matching server **20** to be in Harry's result list **31**. In another example, assume that Sally's profile has not been registered long enough to generate a meaningful imputed physical attractiveness ratio. Matching server **20** may then generate an imputed physical attractiveness score based on entities that Sally does have commonality scores with. This computed average may be weighted by the strength of the commonality score between Sally and each entity with whom she has a commonality score. Continuing the example, assume that Sally has a commonality score of 5 with Lucy and 10 with Julia. When matching server **20** computes the Sally's average, it will give twice as much weight to Julia's imputed physical attractiveness score than to Lucy's.

In some embodiments, matching server **20** may be configured to make an entity in result list **31** more appealing to user **14** by pointing out coincidences in the profile data that give user **14** a sense of fate with the entity. In one embodiment, matching server **20** may be configured to search for similar initials, birthplaces, birth dates, birth month, birth year, university, first names, last names, user handles, parental occupations, and keywords to identify users who may give another user a sense of fate. In other embodiments, matching server **20** may use the fate characteristics as a metric in the matching process.

As an example only, assume that Harry is a registered user who has performed a search. After matching server **20** returns a result list, Harry chooses to learn more about one of the entities in the result list and clicks view button **33**. Consider FIG. **3**, which is only an example of information that matching server **20** may return to Harry after clicking view button **33**. In Harry's display **12**, matching server **20** presents certain details about the profile. In particular,

matching server **20** presents to Harry a fate notification **32** which points out specific similarities between the profile of the entity and Harry's profile. Reading fate notification **32** gives Harry a sense of familiarity which enhances his appreciation for the profile.

In another example, fate characteristics may be used to decide whether a profile in pool **30** is included in user's **14** result list **31**. Assume that Harry is a registered user who has submitted a matching query to matching server **20**. While determining which entities to include in Harry's result list, matching server **20** considers two profiles; Sally and Roxy. Sally and Harry both have the same birth date, initials, and have parents that work in the same profession. In contrast. Roxy and Harry only share the same birth place. Matching server **20** may be configured to award more points to Sally than to Roxy based on these comparisons, making it more likely that Sally's profile will be included in Harry's result list.

In some embodiments, matching server **20** may be configured to evaluate the likelihood of contact between user **14** and an entity in pool **30**. Matching server **20** may be configured to compare demographic data between user **14** and pool entity **30***a*. In another embodiment, matching server **20** may be configured to weigh the demographic similarities and differences based on the sex of user **14**. The demographic data may include, but is not limited to, age, education, ethnicity, income, and location.

As an example only, assume that Harry and Sally are registered users who have profiles in matching server **20**. Harry has submitted a search request to matching server **20**. While fulfilling this request, matching server **20** evaluates Sally's profile since her profile is in pool **30**. As part of the evaluation, matching server **20** looks at the differences between Harry and Sally's stated age, income, education, ethnicity, and location. In this example, Harry is 10 years older than Sally, makes $10,000 more per year, and has a Master's degree while Sally has a bachelor's degree. Even with these disparities, matching server **20** will give Sally's profile a high score which makes it more likely that Sally's profile will appear in Harry's result list. However, if it was Sally who submitted the search, and matching server **20** was evaluating Harry's profile, a different score is possible. So, if it were Sally who was 10 years older, made $10,000 more per year, and had a Master's degree while Harry had a Bachelor's degree, matching server **20** would give a low score to Harry's profile, making it less likely that his profile would appear in Sally's result list. Matching server **20** may be configured this way because empirical data has shown that these demographic differences do not have an equivalent effect on the choices men and women make regarding matches.

In another embodiment, matching server **20** may be configured to compare the locations of user **14** and pool entity **30***a* in increments of ten miles. In yet another embodiment, matching server **20** may be configured to score the location comparison in light of other factors; as an example, matching system **20** may be configured to return a score consistent with a 10 mile difference in location even though there is a 50 mile difference between user **14** and pool entity **30***a* if user **14** and pool entity **30***a* have the same income, education, and age. An advantage realized in several embodiments is that it better approximates how a user evaluates entities. Entities that live further away are generally less appealing to a user; but, users may still be interested if the entity matches their preferences in other categories.

As an example only, consider a registered user, Harry, who submits a search request. While fulfilling this request, matching server **20** examines Sally's profile in pool **30**, and determines that the stated locations of Harry's and Sally's profiles are 13 miles apart. Matching server **20** will give Sally's profile a score as if the distance between them were only 10 miles. However, in yet another example. Sally's profile may indicate that she lives 50 miles away from Harry. Yet, matching server **20** also notes that both Harry and Sally make $100,000 per year, have Master's degrees, and that Harry and Sally are one year apart in age (Harry is older). Given these similarities, matching server **20** will give a score to Sally's profile that is consistent with a 20 mile difference in location even though they are actually 50 miles apart. In this manner, matching server **20** takes into account empirical data that shows that people searching for matches who indicate that they want to see matches who live close to them are still willing to pursue a potential match that lives far away if the potential match fits very closely with the other search criteria.

In another embodiment, matching server **20** may be configured to evaluate the age difference between user **14** and pool entity **30***a* using ranges as well as a sliding scale. By way of example only, matching server **20** may be configured to assign a high value to an age difference between 0 and −5, while assigning a lower value to an age difference between +2 and 0. An even lower value may be assigned to an age difference between −6 and −8. Even lower values would be assigned incrementally as the age difference increases outside of the ranges discussed. The higher the assigned value is, the more likely it will be that pool entity **30***a* will be included in result list **31**. Yet another embodiment may apply this combination of ranges and a sliding scale but use different values and ranges depending on the sex of user **14**.

As an example only, consider a situation in which a registered user, Harry, requests a search to be performed. While fulfilling this request, matching server **20** evaluates Sally's profile, which was in pool **30**. As part of the evaluation, matching server **20** compares the ages of Harry and Sally, and determines that Harry is two years older than Sally; this determination leads to matching server **20** assigning, in this example, points to Sally's profile. Matching server **20** may also be configured to assign 50 points to Sally's profile had she been five years younger than Harry; but, if she had been up to two years older than Harry, matching server **20** may have been configured to assign 40 points to her profile. Matching server **20** may be further configured to assign 30 points to Sally's profile if she was 6 to 8 years younger than Harry. However, if Sally were more than 8 years younger than Harry, matching server **20** may be configured to further decrease the number of points assigned to her profile: if she was 9 years younger, then 25 points; if she was 10 years younger, 20 points; if she was 11 years younger, 15 points; etc. The more points assigned to Sally's profile, the more likely it is that her profile will appear in Harry's result list. Thus, matching server **20** may be configured to assign a score based on age difference using a combination of ranges and a sliding scale.

In another example, matching server **20** may assign scores differently if it was Sally who was searching and if it was Harry's profile that was being evaluated. In this example, matching server **20** may be configured to assign Harry's profile 50 points if he were between 1 and 5 years older than her. If he were 6 to 8 years older than her, matching server **20** may assign 45 points. If he were greater than 8 years older than her, matching server **20** may assign points in the following fashion: if he was 9 years older, 40 points would be assigned; if he was 10 years older, 35 points would be

assigned; etc. However, if he was up to two years younger than Sally, matching server **20** may assign 50 points to his profile. If he were more than two years younger, matching server **20** may assign less points on a sliding scale: 45 points if he were 3 years younger, 40 points if he were 4 years younger, etc. The more points assigned to Harry's profile, the more like it is that his profile will appear in Sally's result list. This example illustrates how matching server **20** may be configured to take the sex of user **14** into account when scoring based on age differences.

In various embodiments, matching server **20** may be configured to evaluate the attractiveness of an entity in pool **30** through collected feedback from other users. In one embodiment, matching server **20** may present an entity to user **14**, prompting user **14** to rate the attractiveness of the entity on a scale from 1-9. This range gives the advantage of having a midpoint. Matching server **20** may further be configured to collect such responses and store them; in one embodiment, matching server **20** may store the data in memory **26**, using a structure such as database **26***b*. Matching server **20** may further be configured to compute the average of such responses for the entity, and store this number as well. In various embodiments, these values may be used in order to help in the matching process. Empirical data indicates that people are more likely to match with people of similar attractiveness. Thus, in various embodiments, users whose attractiveness rating are similar will be more likely to appear in each other's result list. Further, a user may indicate that they only want profiles in their result list whose average attractiveness rating is higher than an indicated threshold.

As an example only, assume registered user, Harry, uses terminal **10**, which in this example is Harry's personal computer, and establishes communication with matching server **20**. In this example, this communication occurs by Harry using a Web browser to access a Web page controlled by matching server **20**. Sometime after visiting the Web page, matching server **20** may present Harry with an option to rate the physical attractiveness of other users registered with matching server **20**. Using display **12** and interface **16**, Harry may view profiles of registered users and rank them on a scale of 1-9 by entering the values using interface **16**; in this example, interface **16** comprises a mouse and/or a keyboard. After submitting this rating, matching server **20** will associate it with the profile and store it. Matching server **20** will also allow other users to rate profiles, thereby collecting a plurality of rankings for profiles. Matching server **20** may use this data when trying to find matches for users. One example of this is that matching server **20** may allow user **14** to specify that he/she is searching for profiles which have an average rating of 6 or above. In turn, matching server **20** may populate user's **14** result list from the pool only with profiles whose average rating is at 6 or above. Another example of how matching server **20** may use this data involves making it more likely that an entity will appear in a user's result list if the entity and that user have a similar average attractiveness rating. So, if a user has an average rating of 6, then an entity with an average rating of 5 may be more likely to appear in the user's result list than an entity with an average rating of 2.

In another example, assume that Harry is a registered user and has requested a search. While fulfilling this request, matching server **20** evaluates Sally's profile. As part of this evaluation, matching server **20** notices that Sally's profile contains feedback from other users ranking the attractiveness of Sally's profile. Matching server **20**, in this example, averages that data; Sally's profile average is 6. Matching server **20** may then examine Harry's profile to determine a similar average. If Harry's profile has an average close to 6, it will be more likely that matching server **20** will include Sally's profile in Harry's result list. If Harry's profile average is lower than 6, it will be less likely that Sally's profile will be included in Harry's result list. If Harry's profile average is greater than 6, it will be even less likely that Sally's profile will be included in Harry's result list. The more Harry's profile average deviates from that of Sally's, the less likely it will be that matching server **20** will present Sally's profile in Harry's result list.

In some embodiments, matching server **20** may be configured to analyze profile information and received activity information to construct "pairs" which link at least two profiles. These pairings may also be associated with a value that ascertains the quality of the pairing. For example, a pairing which results from one user viewing the profile of another user may be assigned a value that is less than a pairing which results from a first user viewing the profile of a second user when the second user has also viewed the first user's profile. Matching server **20** may use these pairings in order to generate search results for entities within and outside of the pairing. Each member of the pair may be used as a seed entity for generating search results for users in matching server **20**. In various embodiments, an advantage may be realized as matching server **20** analyzes many of these pairs to develop dynamic results to users of the system, the results being potentially more relevant as matching server **20** leverages the interaction between users and profiles to generate search results.

Pairs may be formed from a variety of user activity received by matching server **20**. This activity may include: profile views, mutual profile views, one-way double blind communication, mutual double-blind communication, declining double blind communication, one way wink, mutual wink, expressing disinterest in response to receiving a wink, one way favorite, and mutual favorite. Other suitable activity may also be received by matching server **20** and utilized as a basis for generating pairs.

For example, Harry may be a registered user who has expressed a positive preference for Sally. Matching server **20** may be configured to generate a pair which includes Harry and Sally. Matching server **20** may utilize this pair when providing search results to other users. Betty may have requested matches, and Betty may be similar to Sally. Matching server **20** may present Harry in Betty's result list as a result of the pairing between Harry and Sally. Further. Jim may have executed a search and Jim may be similar to Harry. As a result of the pairing between Sally and Harry, matching server **20** may present Sally in Jim's list of search results.

In some embodiments, matching server **20** may be configured to encourage user **14** to interact with entities in pool **30**. For example, matching server **20** may present a list of limited entities from pool **30** to user **14**, but not present other entities to user **14** unless user **14** interacts with the already presented entities. Possible interaction with these entities may include viewing more information regarding the entity, expressing a positive or negative preference for the entity, and choosing to contact the entity. Other suitable forms of interaction may also be utilized. For example, matching server **20** may prompt the user with a question about the list of entities, such as asking whether or not the user likes the entity. Responses to such prompts may include "yes," "maybe," "no," "remove," and "remove other." The presented entities may be chosen using a variety of methods. For example, the presented entities may be chosen based on

various scoring algorithms as described above. In addition, presented entities may be chosen using predictive analysis, such as logistical regression. Other techniques may be used to determine the presented entities. For example, entities that have been presented previously may be excluded. As another example, entities that have been blocked by user **14** may also be excluded. In various embodiments, a combination of these techniques as well as others may be used to determine the limited number of entities presented to user **14**.

For example, Harry may be a registered user of the matching system. Matching server **20** may be configured to present to Harry a list of five entities that Harry must interact with. Once Harry has interacted with these entities, matching server **20** may present five more entities for Harry to interact with. Previously, Harry has blocked Sally, another registered user of the system. As a result, matching server **20** may exclude Sally from being presented to Harry in the list of five entities. Further, Harry has already interacted with Betty, another registered user of the system: Harry sent a message to Betty utilizing matching server **20**. As a result, Betty will be excluded from being presented to Harry in the list of five entities. Matching server **20** may then choose two of the five entities using scoring algorithms described above. For example, matching server **20** may choose Alice and Amy to be presented in the list of five entities because Alice and Any have received high scores when their profiles were compared to Harry's profile. Matching server **20** may choose the remaining three entities using predictive analysis. According to this example, matching server **20** may use logistical regression to identify Carla. Christi, and Camela as the other three entities to present to Harry. Thus, in this example, Harry is presented with a list of five entities by matching server **20**. Matching server **20** may not present another set of five entities until Harry has interacted with these five entities. Harry may interact with these entities in a variety of ways. For example, Harry may send a message to Alice and send a "wink" to Amy. In addition, Harry, may choose to view more information about Carla's profile, but express a negative preference towards Christi and Camela. After matching server **20** receives these types of interaction with the presented five entities, another set of five entities may be presented to Harry.

In this example, matching server **20** may further he configured to process the user interaction provided by Harry. For example, matching server **20** may utilize Alice's profile as a seed entity to generate other possible entities to present to Harry since Harry sent a message to Alice. Thus, a benefit is from presenting a the five entities to Harry in that the interaction between Harry and these entities may be utilized by matching server **20** to generate other entities for matching to Harry. This serves as an example of how preferences may be identified based on user behavior.

In FIG. **4**, one embodiment is disclosed wherein matching server **20**, with pool **30**, may be configured to interact with another platform, such as social networking platform **50**, containing a set **52** of users. Users **14** are communicatively coupled to matching server **20** and social networking platform **50**. Matching server **20** may further be configured to provide users of social networking platform **50** a service by which they may search for users within set **52** or within pool **30** using the algorithms and processing of matching server **20**. Matching server **20** may even further be configured to allow users of matching server **20** to search through pool **30** and set **52**. Matching server **20** may be configured to parse the profiles of the entities in set **52**, collecting data and applying algorithms.

In another embodiment, matching server **20** may be configured to allow users of social networking platform to interact with matching server **20** using social networking platform **50**. This level of integration provides the advantage of users not having to learn and sign up for a different platform.

Social networking platform **50**, in one embodiment, may be a service which stores profiles of its users. This service may be further configured to provide access to the stored profiles. In one embodiment, social networking platform **50** may also allow other services to interact with users of social networking platform **50** through social networking platform **50**.

In one embodiment, matching server **20** may be configured to collect requests from users of social networking platform **50** and perform a search through pool and set **52**. Matching server **20** may further be configured to present the results of this search from within social networking platform **50**. Matching server **20** may further be configured to present entities in the search result from pool **30** as if they were entities of set **52**; in one embodiment, matching server **20** may be configured to generate profiles of entities from pool **30** into set **52**. Thus, users of social networking platform **50** may view all of the entities in the search result, regardless of their source (either from pool **30** or set **52**), within the environment of social networking platform **50**.

As an example only, consider two users: Harry, for whom matching server **20** has created a profile, and Sally, who has a profile stored in social networking platform **50**. From within social networking platform **50**, matching server **20** presents to Sally the ability to perform a search which Sally uses. The results of this search are presented to Sally within social networking platform **50**. In this example, Harry's profile is displayed to Sally as a search result along with other entities from set **52** though Harry's profile was from pool **30**. In this example, matching server **20** uses the algorithms discussed herein and searches through the profiles stored in pool **30** and set **52**. In order to display Harry's profile to Sally, matching server **20** creates a profile in set **52** using the data stored in Harry's profile in pool **30**. Sally is then able to interact with this newly created profile from within social networking platform **50** in the same manner as she is other entities in set **52**.

In another embodiment, matching server **20** may be configured to allow its users to interact with social networking platform **50** through matching server **20**. In one embodiment, matching server **20** supplements pool **30** with set **52**. In yet another embodiment, entities from set **52** appear as entities of pool **30** to the user in their list of search results. In one embodiment, matching server **20** may be configured to generate profiles within pool **30** from entities of set **52**; the system may be configured to do so through capabilities provided by social networking platform **50**, such as an application programming interface.

As an example only, consider two users: Harry, whose profile is stored in matching server **20**, and Sally, whose profile is stored in social networking platform **50**. Harry submits a search request to matching server **20**. Matching server **20** may return result list **31** to Harry, which, in this example, contains an entity representing Sally's profile. Matching server **20** may accomplish this by creating profiles in pool **30** that correspond to the profiles found in set **52**. Once these profiles have been imported into pool **30**, matching server **20** may then search through pool **30**. While doing so, matching server **20** applies the algorithms and scores discussed herein. Thus, in this example, matching server **20** has been configured to both search and apply scoring

algorithms to entities in pool **30** and set **52**. Further, in one example, Harry is not able to distinguish that Sally's profile was originally stored in social networking platform **50**. Rather, matching server **20** presents Sally's profile in the same manner as other profiles stored in pool **30**. Thus, in this example, Harry may use favorite button **34**, view button **33**, and contact button **35** when interacting with Sally's profile in the same manner as described above.

One advantage present in various embodiments is that a user has a wider pool of entities to search through. Another advantage is that a user does not have to sign up with several platforms to search through the users on those platforms.

FIG. **5** is a flowchart illustrating one embodiment of how result list **31** may be generated. At step **62**, matching server **20** generates pool **30**, as described above. At step **64**, matching server **20** applies a filter to pool **30**, removing certain entities; in various embodiments, this filter is based on user's **14** own sex and the sex user **14** desires to be matched with. At step **66**, matching server **20** may be configured to apply algorithms to pool **30** that will generate a plurality of scores for each entity in pool **30**. In one embodiment, these algorithms may include analyzing the text of the profiles of the entities in pool **30** to generate a readability score, determining how attractive an entity of pool **30** is, or measuring how likely it is that user **14** will contact an entity of pool **30**. At step **68**, matching server **20** may be configured to collect all of the scores from step **66**; in one embodiment, matching server **20** may use database **26***b* to store all of these scores. At step **70**, matching server **20** may be configured to apply an ordering algorithm which will determine the order in which entities in result list **31** are presented to user **14**. In one embodiment, this ordering algorithm is based, in part, on the scoring algorithms applied at step **66**. The ordering algorithm assigns points to each entity and orders them based on these values, constructing result list **31**. An embodiment of this ordering algorithm is summarized in the following table:

Condition	Number of Points for Ordering
Readability score 1 point higher than user	+33554432
Match result entity has expressed a preference for the user	+16777216
Match result entity has been recommended by a friend of the user	+8388608
User has viewed the details of match result entity	+2097152
Match result entity has commonality with an entity user has expressed a preference for	+1048576
Both have the same ambition	+128
Both have the same beliefs	+16384
Same answer for Build	+64
Same answer for Car	+1
Both have the same diet	+4
Both have the same preference for drinking alcohol	+131072
Same answer for Ethnicity	+1024
Same answer for Fear	+256
Same answer for Hair	+2
Same answer for Number of children	+524288
Same answer for morning	+32
Same answer for "must have"	+32768
Same answer for "night out"	+16
Same answer for "pets"	+65536
Same answer for politics	+8192
Same answer for relationship status	+0
Same answer for "romance"	+512
Same answer for smoking preferences	+262144
Same answer for sports interests	+8
Same answer for "system"	+4096

As an example only, consider a registered user, Harry, who desires to perform a search. Before processing the request, matching server **20** may ask Harry what sex he is and what sex does he desire to be matched with; in this example, Harry responds that he is a male seeking a female. After doing so, matching server **20** will generate pool **30** as described above. Next, matching server **20** will apply a filter to remove certain entities from pool **30**. In this example, all males will be removed from pool **30** since Harry is seeking a female. Further, all females seeking females will be removed from pool **30** since Harry is a male. In other examples, other entities that are removed from pool **30** include entities that Harry has expressed a negative preference for before, or entities that have expressed a negative preference for Harry. After pool **30** has been filtered, matching server applies a variety of scoring algorithms to the entities remaining in pool **30**. These algorithms may account for various comparisons such as those based on readability, likelihood to contact, fate, and keywords described above. Matching server **20** will then tabulate these scores, storing them, in this example, in database **26***b*. Matching server **20** will then determine what order these entities are presented to Harry by applying an ordering algorithm. Here, matching server **20** assigns one ordering score to each entity by examining the results of the scoring algorithms. After doing so, matching server will present result list **31** to Harry, where the order of the entities that appear in the result list is based on the ordering algorithm. In this example, it is possible for result list **31** to change. Consider another user, Sally, who appears in Harry's result list. If Harry decides to add her into a separate list by using favorite button **34**. Sally will be removed from result list **31** (as described above). However. Sally will also become a seed entity from which entities may be added to pool **30** (as described above). Hence, matching server **20** will update the pool, apply the filters, apply the scoring algorithms, tabulate the results, apply the ordering algorithm, and update result list **31**. As another example, an entity may update their profile which can change result list **31**. For example, assume Sally's profile had an ordering algorithm score that placed her within the top 20 entities in result list **31**. Sally then changes her profile which results in keywords that match Harry's profile being added to her profile. Matching server **20** will then update her scoring algorithms. In this example, the change in Sally's profile and resulting increase in keyword matches with Harry's profile significantly increased her score. This was then reflected in the ordering algorithm as it was also applied to the updated profile. Afterwards. Sally's profile is now placed within the top 5 entities in result list **31**.

In some embodiments, matching server **20** may be configured to receive required characteristics from user **14** regarding a match. User **14** may be allowed to specify such restrictions based upon any number of characteristics,

including those described herein. For example, matching server **20** may allow user **14** to specify that entities that indicate they have children should not be displayed. In another example, user **14** may specify that only entities between the ages of 20 and 30 should be present in result list **31**. In some embodiments, matching server **20** may implement these restrictions in step **64** of FIG. **5** in other embodiments, however, matching server **20** may refuse to apply these restrictions to certain entities based on the characteristics of the entities. Any number of characteristics, including those described herein, may form the basis upon which matching server **20** decides not to apply the restrictions submitted by user **14**. As an example only, matching server **20** may ignore the restrictions if the entity has a high enough attractiveness rating. In another example, though user **14** has requested that no profiles which are located more than 50 miles away should be present in result list **31**, matching server **20** may include such profiles because those profiles have over 5 matching keywords, a high attractiveness rating, and have specified the same life goals as user **14**. Thus, in some embodiments, matching server **20** may refuse to apply restrictions submitted by user **14** based on any combination of characteristics or algorithms.

An advantage present in many embodiments is that through taking into account various factors when scoring potential matches and using only very few strict filters, a large amount of result entities may be returned to the user. A further advantage is that the ordering algorithm will put the most relevant search results first, saving the user time.

FIGS. **6-9** depict embodiments of a user interface presented to users of the matching system discussed above with respect to FIGS. **1** and **4**. According to some embodiments, users **14** interact with matching server **20** through interface **16** presented by terminal **10**. In addition to the embodiments of interface **16** described above in relation to FIG. **1**A, interface **16** may also comprise a touch screen interface operable to detect and receive touch input such as a tap or a swiping gesture. In some embodiments, matching server **20** may import profiles from other social networking systems. This level of integration provides the advantage of users only having to update their profile information in one place. For example, when user **14** updates his profile within social networking platform **50**, matching server **20** is also able to access the updated profile information.

In some embodiments, matching server **20** may further be configured, as part of the user registration process, to link to a user's existing profile within social networking platform **50**. Matching server **20** may be configured to parse the profiles of the users in set **52**, e.g., collecting data and applying algorithms. For example, matching server **20** may use explicit signals from social networking platform **50** such as common friends, common interests, common network, location, gender, sexuality, or age to evaluate potential matches between users **14**. Matching server **20** may also use implicit signals such as for whom a user **14** expresses approval and disapproval. Implicit signals may also include facial recognition algorithms to detect ethnicity, hair color, eye color, etc., of profiles that user **14** has expressed interest in.

In particular embodiments, matching server **20** may have users **14** to link their user profiles to an existing profile within social networking platform **50**. Matching server **20** may be configured to generate and add profiles to user profile pool **30** from entities of set **52**; the system may be configured to do so through capabilities provided by social networking platform **50**, such as an application programming interface. One advantage of linking is that matching server **20** can use the authentication features provided by social networking platform **50**. For example, creating a user profile on matching server **20** containing false information becomes harder when the information must come from another verifiable and peer monitored source such as social networking platform **50**.

In some embodiments, matching server **20** may allow a user **14** to propose a match between two of his connections within social networking platform **50**. For example, Harry may be friends with both Bob and Sally within social networking platform **50**. Harry believes Bob and Sally are a good match and therefore instructs matching server **20** to create a match between the two users in user profile pool **30**. Once matched, matching server **20** allows Harry and Sally to communicate with each other.

In some embodiments, matching server **20** may be configured to apply a relevance algorithm which determines the content and order in which matching server **20** displays potential matches to user **14**. A relevance algorithm may be based on both explicit and implicit signals from user **14**. Explicit signals include information entered by user **14** as part of its user profile, such as height, weight, age, location, income, and ethnicity. Explicit signals may also include information about the characteristics user **14** is seeking in a match, such as gender, hair color, eye color, or occupation. Explicit signals may also be entered by user **14** as part of a search request. For example, user **14** may request matching server **20** limit the pool of potential matches to those users within a fixed geographic region. Matching server **20** is operable to compare geographic positions associated with the plurality of user profiles in user profile pool **30** with a geographic position associated with user **14**. Explicit signals may be imported from a social networking platform **50**, such as the number of shared entities in a social graph of user **14**. Implicit signals may be based on the behavior of user **14** either within system **100** or other social networking platforms **50**. For example, if user **14** has expressed disapproval of a user profile in the past, matching server **20** may no longer present the disapproved of user profile to user **14** in future searches. In various embodiments, matching server **20** may be configured to evaluate the attractiveness of a user in user profile pool **30** through collected feedback from other users. For example, matching server **20** may rank a user profile that receives more likes as more relevant than a user profile that receives fewer likes. In particular embodiments, matching server **20** may assign a higher relevance to a user profile if the other user has previously expressed a preference for user **14**. As an example, user Harry may have previously expressed a preference for user Sally. If Sally requests a set of user profiles from matching server **20**, and Harry's user profile is included in the set, matching server **20** may assign Harry's user profile a higher relevance based on his expression of preference for Sally. This can result in Harry's profile being presented to Sally sooner than otherwise would have occurred. This may be advantageous in that it can increase the chances of a match without compromising a user's feelings of privacy when expressing preferences for potential matches. In some embodiments, matching server **20** may be configured to use the fate characteristics as a metric in the relevance algorithm.

In some embodiments, terminal **10** is operable to determine its own geographic location by a global positioning satellite navigational system. Terminal **10** may also determine its own geographic location using cellphone-based triangulation techniques. Wi-Fi based positioning system. Global Positioning Satellite (GPS) system, or network addresses assigned by a service provider.

FIG. **6** shows one embodiment of system **100** displaying to a user the profile information of a second user. Matching server **20** may be configured to search through its plurality of profiles and present suggested matches to user **14**. In FIG. **6**, one embodiment of this presentation is depicted as occurring through the display of terminal **10**. In this embodiment, a plurality of user profiles is presented to user **14**. Using terminal **10**, user **14** may request that matching server **20** present a subset of users from user profile pool **30** based on specified search parameters. The display may show an image of a suggested user and one or more aspects of the suggested user's profile information. In some embodiments, the combination of image and one or more aspects of profile information is displayed as "card" **88** representing the suggested user. A set of suggested users may be displayed as stack of cards **88**. User **14** may view information regarding one suggested user at a time or more than one of the suggested users at a time. User **14** may be presented with a summary of information regarding a suggested user. The summary may include one or more of: a picture, an icon, name, location information, gender, physical attributes, hobbies, or other profile information.

In some embodiments, terminal **10** may also display "information" button **84** which allows user **14** to request matching server **20** to retrieve and display more information about the presented user from user profile pool **30**. In addition, user **14** may express approval or disapproval for a presented user. Expressing approval or disapproval can be accomplished through various methods. For example, terminal **10** may display "like" button **86** (represented by a green heart icon) and "dislike" button (represented by a red "X" icon). Pressing like button **86** indicates to matching server **20** that user **14** approves of and is interested in communication with the presented user. Pressing dislike button **82** indicates that user **14** disapproves of and does not want to communicate with the presented user. The approval preference of user **14** is anonymous in that matching server **20** does not inform users **14** whether other users have expressed approval or disapproval for them.

As an example, consider two registered users, Harry and Sally, both of whom have profiles stored in matching server **20**. Harry is at a restaurant and requests matching server **20** to present him users within a one-mile radius of his location. Matching server **20** compares a geographic position associated with Sally with a geographic position associated with Harry. If Sally is currently within the one-mile radius of Harry and matching server **20** determines her profile information matches Harry's preferences, matching server **20** will present Harry one or more aspects of Sally's profile information. If other users also meet the search criteria, matching server **20** will present one or more aspects of those users' profile information as well. Harry may request more information about Sally by pressing information button **84**. Harry may also indicate his preference to communicate directly with Sally by selecting like button **86**. In another example, Harry may expand his search to a twenty-five mile radius to meet people in his town, not just his immediate vicinity.

FIGS. **7** and **8** are diagrams of embodiments of the display from FIG. **6** showing the effect of a left swipe gesture (FIG. **7**) and the effect of a right swipe gesture (FIG. **8**). In one embodiment, users **14** may navigate through the set of presented users by swiping through stack of cards **88**. Users **14** may also express approval of a presented user by performing a right swipe gesture or express disapproval by performing a left swipe gesture. In some embodiments, user **14** performs a swiping gesture by moving a finger or other suitable object across a screen of terminal **10**. Other suitable gestures or manners of interacting with terminal **10** may be used (e.g., tapping on portions of a screen of terminal **10**).

In some embodiments, matching server **20** creates a match between two users **14** after both users **14** have expressed a preference for each other's profiles using like button **86** or the swiping gesture associated with like button **86**. When matching server **20** creates a match, it may also provide the matched users with the ability to contact each other through a contact button. In some embodiments, when a match is created, matching server **20** may immediately (or soon thereafter) present an option to users **14** that have been matched to engage in a communication session (e.g., a chat, an SMS message, an e-mail, a telephone call, a voice communication session, a video communication session). This may be done in response to a first user **14** expressing a preference for a second user **14** that has already expressed a preference for the first user **14**.

FIG. **9** shows one embodiment of matching system **100** displaying a match of a first user and a second user, in accordance with a particular embodiment. Matching server **20** may provide first user **14** and second user **14** with each other's contact information such as a telephone number or an e-mail address. Matching server **20** may also provide both first and second users **14** with a way to directly contact the other, such as sending a message or providing voice or video communication between the first and second user. In some embodiments, direct communication may be initiated by pressing "Send a Message" button **92**. Alternatively, a user may choose to continue browsing the set of presented users by pressing "Keep Playing" button **94**.

For example, user Harry may indicate a preference to communicate directly with user Sally by selecting like button **86**. At this point. Sally is not aware that Harry expressed a preference for her. If Sally also requests matching server **20** present her with a set of possible matches, Harry may appear in her set. Sally may select like button **86** (or perform an associated swiping gesture) when viewing Harry's profile. Matching server **20** may then notify both Harry and Sally that a match occurred. At this point, both Harry and Sally are made aware that they each expressed approval of each other's profile. Matching server **20** then enables Harry and Sally to directly communicate with each other (e.g., through a private chat interface).

In some embodiments, one advantage of a system disclosing preferences of profiles to users when mutual approval has occurred is that a user can feel more secure in their privacy knowing that their preferences will be disclosed to those that have expressed a preference for that user. As an example, a user can avoid embarrassment if their expression of preference for a profile was not reciprocated. This may lead to users more actively expressing their preferences. Such increased activity can be used by the matching system to generate more potential matches or better rankings of potential matches. In some embodiments, matching server **20** may be configured to allow direct communication between users when there has been a mutual expression of preference. This may be advantageous because users can avoid browsing, deleting, or responding to unwanted messages.

FIG. **10** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a mutual expression of approval, in accordance with a particular embodiment.

At step **1002**, in some embodiments, matching server **20** generates a set of user profiles in response to a request for matching from a first user **14**. At step **1004**, matching server

20 presents the set of user profiles to first user 14. Matching server 20 determines the contents and ordering of the set of users profiles by using, e.g., the relevance algorithms described above in the discussion of FIG. 4. For example, matching server 20 may only include user profiles whose contents indicate location within a specified geographical radius and order the presentation of those user profiles based on the number of mutual friends in common with first user 14.

At step 1006, in some embodiments, matching server 20 receives an indication of the preference of first user 14 regarding a presented user profile. Matching server determines if first user 14 expresses approval or disapproval of the presented user profile at step 1008. If first user 14 disapproves of the presented user profile then a match is not made and, at step 1016, matching server 20 will not allow communication between the two users. If first user 14 expresses approval for the presented user profile at step 1008, then matching server 20 will check if second user 14 represented by the presented user profile has already expressed a preference for first user 14 at step 1010. If matching server 20 detects a mutual expression of approval then a match is made between first and second users 14. Then, at step 1012, matching server 20 allows private communications between first and second users 14. If a mutual expression of approval is not detected at step 1010, then matching server 20 stores the preference of first user 14 regarding the presented user profile for future comparison and continues to step 1016 where private communications are not yet allowed.

FIG. 11 is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. 1 based on a matching proposal suggested by a user, in accordance with a particular embodiment. At step 1102, matching server 20 receives interactions from first user 14. Interactions from first user 14 may include identification of user profiles for two other users 14. For example, Harry is connected to both Bob and Sally within social networking platform 50. Harry believes Bob and Sally are a good match for each other and generates a matching proposal requesting matching server 20 to create a match between Bob and Sally.

At step 1104, in some embodiments, matching server validates the suggested matching proposal between second and third users 14. For example, matching server 20 verifies that Bob's profile indicates that he wants to be matched with a woman, and Sally's profile indicates that she wants to be matched with a man. Matching server may also verify that Sally has not previously expressed disapproval for Bob. If matching server 20 determines the suggested matching proposal is valid, matching server 20 creates the match and allows communication between the users 14 suggested to be matched at step 1106. If matching server 20 determines the suggested matching proposal is not valid, matching server 20 does not create a match and does not allow communication between second and third users 14 at step 1108. In some embodiments, step 1104 may not be performed. For example, if a matching proposal is suggested, then matching server 20 may perform step 1106 with respect to the users suggested to be matched.

FIGS. 12A-D depict embodiments of a user interface. In some embodiments, the interface allows user 14 of terminal 10 to enable communication between other users 14 by suggesting a matching proposal to matching server 20.

FIG. 12A illustrates one embodiment of an interface for proposing a match between two users. The interface is divided into three sections: connection list area 1202, search area 1204, and suggestion area 1206. Connection list area 1202 displays a set of connections user 14 has with other users of, e.g., system 100 of FIG. 1. Connections may be based on prior matches created by matching server 20. Connections may also be imported from another social networking platform 50. Search area 1204 enables user 14 to search for particular connections within system 100. In some embodiments, the search may be limited to just the connections displayed in connection list area 1202. Suggestion area 1206 displays the connections that user 14 may use to form a suggested match.

FIG. 12B illustrates suggestion area 1206 displaying a first selected user (i.e., "Jonathan Smith") of a proposed match between two users. User 14 identifies the first selected user through a set of interactions with connection list area 1202, search area 1204, and suggestion area 1206. For example, user 14 may locate a connection in connection list area 1202 by typing a user handle in search area 1204. User 14 may then add the connection to suggestion area 1206. In some embodiments, user 14 may drag the connection from connection list area 1202 to suggestion area 1206.

FIG. 12C illustrates suggestion area 1206 displaying a proposed match between two suggested users (i.e., "Jonathan Smith" and "Mary Major"). For example, user 14 may locate a second connection in connect list area 1202 that user 14 believes is a match for the first connection. User 14 may add the second connection to suggestion area 1206. When both connections are added to suggestion area 1206, matching server 20 may create a match between the two users and allow communication between them.

FIG. 12D illustrates an example communication interface between users of the matching system. User 14 is presented with chat box 1208 for each of the matches that exist for user 14. Users 14 may communicate with each other through chat box 1208. In some embodiments, users 14 may communicate through SMS messages, e-mail, telephone calls, online voice communication sessions, and/or video communication sessions.

Modifications, additions, or omissions may be made to the methods described herein (such as those described above with respect to FIGS. 5, 10 and 11) without departing from the scope of the disclosure. For example, the steps may be combined, modified, or deleted where appropriate, and additional steps may be added. Additionally, the steps may be performed in any suitable order without departing from the scope of the present disclosure.

Although several embodiments have been illustrated and described in detail, it will be recognized that substitutions and alterations are possible without departing from the spirit and scope of the appended claims.

What is claimed is:

1. A computer implemented method of profile matching, comprising:

electronically receiving a plurality of user online-dating profiles, each profile comprising traits of a respective user and associated with a social networking platform;

electronically receiving a first request for matching, the first request electronically submitted by a first user using a first electronic device;

determining a set of potential matches from the plurality of user online-dating profiles for the first user in response to receiving the first request;

causing the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

determining that the first user expressed a positive preference indication regarding the first potential match at least by determining that the first user performed a first swiping gesture associated with the graphical representation of the first potential match on the graphical user interface;

in response to determining that the first user expressed the positive preference indication regarding the first potential match, automatically causing the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

determining that the second user has expressed a positive preference indication regarding the first user after determining that the first user expressed the positive preference indication regarding the first potential match;

determining to enable communication between the first user and the second user in response to determining that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

in response to determining to enable communication between the first user and the second user, causing the graphical user interface to display to the first user both the graphical representation of the first potential match;

determining that the first user expressed a negative preference indication regarding a second potential match of the set of potential matches at least by determining that the first user performed a second swiping gesture associated with a graphical representation of the second potential match on the graphical user interface, the second swiping gesture different than the first swiping gesture, the second potential match corresponding to a third user;

determining to prevent communication between the first user and the third user in response to determining that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

determining that the first user expressed a positive preference indication regarding a third potential match of the set of potential matches at least by determining that the first user performed the first swiping gesture associated with a graphical representation of the third potential match on the graphical user interface, the third potential match corresponding to a fourth user; and

determining to prevent communication between the first user and the fourth user in response to determining that the fourth user has expressed a negative preference indication regarding the first user.

2. The method of claim **1**, further comprising:

in response to determining that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user, causing the display of a graphical notification, on the graphical user interface of the first electronic device, that a match exists between the first user and the second user, the graphical notification comprising a user interface control enabling the text area to be presented to the first user.

3. The method of claim **1**, wherein the set of potential matches for the first user comprises one or more potential matches that are each associated with a geographic location within a threshold distance of a geographic location associated with the first user, the threshold distance being a stored value.

4. A non-transitory computer-readable medium comprising instructions that, when executed by a processor, are configured to:

electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user and associated with a social networking platform;

electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device;

determine a set of potential matches from the plurality of user online-dating profiles for the first user in response to receiving the first request;

cause the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

determine that the first user expressed a positive preference indication regarding the first potential match at least by determining that the first user performed a first swiping gesture associated with the graphical representation of the first potential match on the graphical user interface;

in response to the determination that the first user expressed the positive preference indication regarding the first potential match, automatically cause the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

determine that the second user has expressed a positive preference indication regarding the first user after determining that the first user expressed the positive preference indication regarding the first potential match;

determine to enable communication between the first user and the second user in response to the determination that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

in response to the determination to enable communication between the first user and the second user, cause the graphical user interface to display to the first user both the graphical representation of the first potential match;

determine that the first user expressed a negative preference indication regarding a second potential match of the set of potential matches at least by determining that the first user performed a second swiping gesture associated with a graphical representation of the second potential match on the graphical user interface, the second swiping gesture different than the first swiping gesture, the second potential match corresponding to a third user;

determine to prevent communication between the first user and the third user in response to determining that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

determine that the first user expressed a positive preference indication regarding a third potential match of the set of potential matches at least by determining that the first user performed the first swiping gesture associated with a graphical representation of the third potential match on the graphical user interface, the third potential match corresponding to a fourth user; and

determine to prevent communication between the first user and the fourth user in response to determining that the fourth user has expressed a negative preference indication regarding the first user.

5. The medium of claim **4**, further comprising instructions configured to, in response to the determination that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user, cause the display of a graphical notification, on the graphical user interface of the first electronic device, that a match exists between the first user and the, second user, the graphical notification comprising a user interface control enabling the text area to be presented to the first user.

6. The medium of claim **4**, wherein the set of potential matches for the first user comprises one or more potential matches that are each associated with a geographic location within a threshold distance of a geographic location associated with the first user, the threshold distance being a stored value.

7. A system for profile matching, comprising:

an interface operable to:

electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user and associated with a social networking platform;

electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user and associated with a social networking platform;

electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device; and

a processor coupled to the interface and operable to:

determine a set of potential matches from the plurality of user online-dating profiles for the first user in response to receiving the first request;

cause the interface to display a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

determine that the interface has received a positive preference indication from the first user regarding the first potential match at least by determining that the first user performed a first swiping gesture associated with the graphical representation of the first potential match on the graphical user interface;

automatically cause the interface to remove the presentation of the first potential match from the graphical user interface in response to detecting the gesture and cause the interface to present, on the graphical user interface, a second potential match of the set of potential matches to the first user;

determine that the second user has expressed a positive preference indication regarding the first user after determining that the first user expressed the positive preference indication regarding the first potential match; and

determine to enable communication between the first user and the second user in response to the determination that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

in response to the determination to enable communication between the first user and the second user, cause the graphical user interface to display to the first user both the graphical representation of the first potential match;

determine that the first user expressed a negative preference indication regarding a second potential match of the set of potential matches at least by determining that the first user performed a second swiping gesture associated with a graphical representation of the second potential match on the graphical user interface, the second swiping gesture different than the first swiping gesture, the second potential match corresponding to a third user;

determine to prevent communication between the first user and the third user in response to determining that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user;

determine that the first user expressed a positive preference indication regarding a third potential match of the set of potential matches at least by determining that the first user performed the first swiping gesture associated with a graphical representation of the third potential match on the graphical user interface, the third potential match corresponding to a fourth user; and

determine to prevent communication between the first user and the fourth user in response to determining that the fourth user has expressed a negative preference indication regarding the first user.

8. The system of claim **7**, the processor further operable to, in response to the determination that both the first user has expressed the positive preference indication regarding the second user and the second user has expressed the positive preference indication regarding the first user, cause the display of a graphical notification, on the graphical user interface of the first electronic device, that a match exists between the first user and the second user, the graphical notification comprising a user interface control enabling the text area to be presented to the first user.

9. The system of claim **7**, wherein the set of potential matches for the first user comprises one or more potential matches that are each associated with a geographic location within a threshold distance of a geographic location associated with the first user, the threshold distance being a stored value.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 9,733,811 B2
APPLICATION NO. : 14/059192
DATED : August 15, 2017
INVENTOR(S) : Sean Rad et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

Column 25, Line 20, after "enable" insert --initial--.
Column 25, Line 26, after "enable" insert --initial--.
Column 25, Line 28, after second reference of "user", delete "both".
Column 25, Line 31, after "regarding a", delete "second" and insert --third--.
Column 25, Line 34, after "of the", delete "second" and insert --third--.
Column 25, Line 37, after "the", delete "second" and insert --third--.
Column 25, Line 39, delete "determining to prevent" and insert --preventing--.
Column 25, Line 40, delete "in response to" and insert --after--.
Column 25, Line 41, delete "both".
Column 25, Line 41, delete "positive" and insert --negative--.
Column 25, Line 42, after "the", delete "second user and the second".
Column 25, Line 43, delete "user has expressed the positive preference indication".
Column 25, Line 44, delete "regarding the first" and insert --third--.
Column 25, Line 46, after "regarding a", delete "third" and insert --fourth--.
Column 25, Line 49, after "representation of the", delete "third" and insert --fourth--.
Column 25, Line 51, before "potential match", delete "third" and insert --fourth--.
Column 25, Line 53, delete "determining to prevent" and insert --preventing--.
Column 25, Line 54, delete "in response to" and insert --after--.
Column 26, Line 43, after "enable" insert --initial--.
Column 26, Line 49, after "enable" insert --initial--.
Column 26, Line 51, after "first user", delete "both".
Column 26, Line 54, after "regarding a", delete "second" and insert --third--.
Column 26, Line 57, after "representation of the", delete "second" and insert --third--.
Column 26, Line 60, after "the", delete "second" and insert --third--.
Column 26, Line 62, delete "determine to".
Column 26, Line 63, delete "in response to" and insert --after--.
Column 26, Line 64, delete "both".

Signed and Sealed this
Twenty-first Day of November, 2017

Joseph Matal

Joseph Matal
Performing the Functions and Duties of the
Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

Column 26, Line 64, delete "positive" and insert --negative--.
Column 26, Line 65, delete "second user and the second".
Column 26, Line 66, delete "user has expressed the positive preference indication".
Column 26, Line 67, delete "regarding the first" and insert --third--.
Column 27, Line 2, delete "third" and insert --fourth--.
Column 27, Line 5, delete "third" and insert --fourth--.
Column 27, Line 6, delete "third" and insert --fourth--.
Column 27, Line 8, delete "determine to".
Column 27, Line 9, delete "in response to" and insert --after--.
Column 27, Line 19, after "first user and the" delete ",".
Column 27, Line 33, delete "electronically receive a plurality of user online-dating".
Column 27, Line 34, delete "profiles, each profile comprising traits of a respective".
Column 27, Line 35, delete "user and associated with a social networking platform;".
Column 28, Line 6, after "enable", insert --initial--.
Column 28, Line 12, after "enable", insert --initial--.
Column 28, Line 14, after "first user", delete "both".
Column 28, Line 17, after "regarding a", delete "second" and insert --third--.
Column 28, Line 20, after "representation of the", delete "second" and insert --third--.
Column 28, Line 23, after "gesture, the", delete "second" and insert --third--.
Column 28, Line 25, delete "determine to".
Column 28, Line 26, delete "in response to" and insert --after--.
Column 28, Line 27, delete "both".
Column 28, Line 27, after "expressed the", delete "positive" and insert --negative--.
Column 28, Line 28, delete "second user and the second".
Column 28, Line 29, delete "user has expressed the positive preference indication".
Column 28, Line 30, delete "regarding the first" and insert --third--.
Column 28, Line 32, delete "third" and insert --fourth--.
Column 28, Line 35, delete "third" and insert --fourth--.
Column 28, Line 36, delete "third" and insert --fourth--.
Column 28, Line 38, delete "determine to".
Column 28, Line 39, delete "in response to" and insert --after--.
Column 28, Line 50, after "control enabling", delete "the" and insert --a--.

Exhibit B

US009959023B2

(12) **United States Patent**
Rad et al.

(10) **Patent No.: US 9,959,023 B2**
(45) **Date of Patent: May 1, 2018**

(54) **MATCHING PROCESS SYSTEM AND METHOD**

(71) Applicant: **Tinder, Inc.**, West Hollywood, CA (US)

(72) Inventors: **Sean Rad**, Los Angeles, CA (US); **Jonathan Badeen**, North Hollywood, CA (US)

(73) Assignee: **Match.Com, L.L.C.**, Dallas, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. days.

(21) Appl. No.: **15/016,662**

(22) Filed: **Feb. 5, 2016**

(65) **Prior Publication Data**

US 2016/0154569 A1 Jun. 2, 2016

Related U.S. Application Data

(63) Continuation of application No. 14/059,192, filed on Oct. 21, 2013, now Pat. No. 9,733,811, which is a (Continued)

(51) **Int. Cl.**

G06F 17/30	(2006.01)
G06F 3/0484	(2013.01)
G06Q 10/10	(2012.01)
G06Q 30/02	(2012.01)
G06Q 50/10	(2012.01)
G06Q 50/00	(2012.01)
G06F 3/0482	(2013.01)
G06F 3/0488	(2013.01)

(52) **U.S. Cl.**

CPC ***G06F 3/04842*** (2013.01); ***G06F 3/0482*** (2013.01); ***G06F 3/0488*** (2013.01); ***G06F 17/30554*** (2013.01); ***G06F 17/30657*** (2013.01); ***G06Q 10/10*** (2013.01); ***G06Q 30/02*** (2013.01); ***G06Q 50/01*** (2013.01); ***G06Q 50/10*** (2013.01)

(58) **Field of Classification Search**

CPC H04L 67/306; G06F 17/30011; G06F 17/3053

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,480,885 B1		11/2002	Olivier	
7,203,674 B2 *		4/2007	Cohen	G06Q 10/02 707/999.003

(Continued)

OTHER PUBLICATIONS

Chegg® Blog, Chegg® Product Updates, "Introducing the Chegg Flashcards App," http://blog.chegg.com/2012/02/03/introducind-the-chegg-flashcards-app/, 10 pages, Dated Feb. 3, 2012 Printed Feb. 5, 2016.

(Continued)

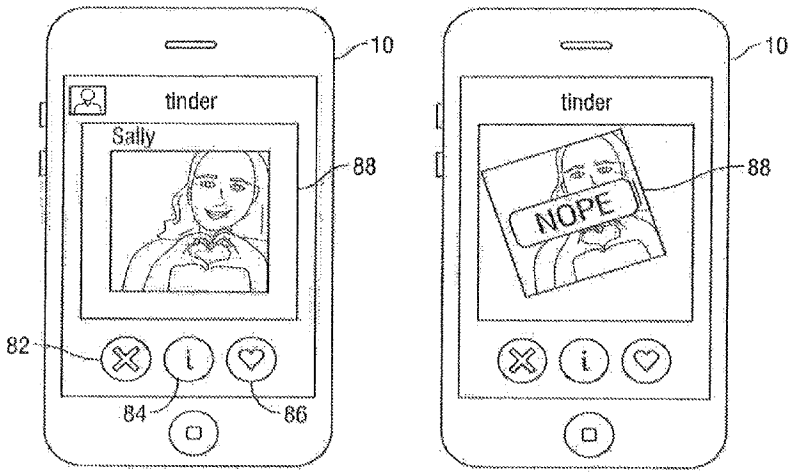
Primary Examiner — Carol Choi

(74) *Attorney, Agent, or Firm* — Baker Botts, L.L.P.

(57) **ABSTRACT**

A method for profile matching includes receiving a plurality of user profiles, each user profile comprising traits of a respective user. The method includes receiving a preference indication for a first user profile of the plurality of user profiles. The method also includes determining a potential match user profile of the plurality of user profiles based on the preference indication for the first user profile. The method also includes presenting the potential match user profile to a second user.

6 Claims, 11 Drawing Sheets



Related U.S. Application Data

continuation-in-part of application No. 12/339,301, filed on Dec. 19, 2008, now Pat. No. 8,566,327.

(60) Provisional application No. 61/793,866, filed on Mar. 15, 2013.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,401,098	B2 *	7/2008	Baker	H04L 12/1818 707/999.006
7,917,448	B2	3/2011	Smola et al.	
8,060,463	B1	11/2011	Spiegel	
8,566,327	B2	10/2013	Carrico et al.	
9,009,109	B2 *	4/2015	Tan	G06F 17/30699 705/26.1
2005/0021750	A1	1/2005	Abrams	
2006/0059147	A1	3/2006	Weiss et al.	
2006/0085419	A1	4/2006	Rosen	
2006/0106780	A1	5/2006	Dagan	
2007/0073687	A1	3/2007	Terrill et al.	
2007/0073803	A1	3/2007	Terrill et al.	
2008/0294624	A1	11/2008	Kanigsberg et al.	
2008/0301118	A1	12/2008	Chien et al.	
2009/0106040	A1	4/2009	Jones	
2011/0087974	A1 *	4/2011	Kulas	G06F 3/04812 715/760
2013/0179925	A1 *	7/2013	Woods	H04N 21/42209 725/42
2014/0040368	A1 *	2/2014	Janssens	H04L 67/306 709/204
2014/0074824	A1	3/2014	Rad et al.	
2014/0162241	A1 *	6/2014	Morgia	G06Q 30/02 434/362

OTHER PUBLICATIONS

PCT Notification of Transmittal of the International Search Report and the Written Opinion of the International Searching Authority, or the Declaration with attached PCT International Search Report and Written Opinion of the International Searching Authority in International Application No. PCT/US 08/87706, dated Feb. 10, 2009, 8 pages.

* cited by examiner

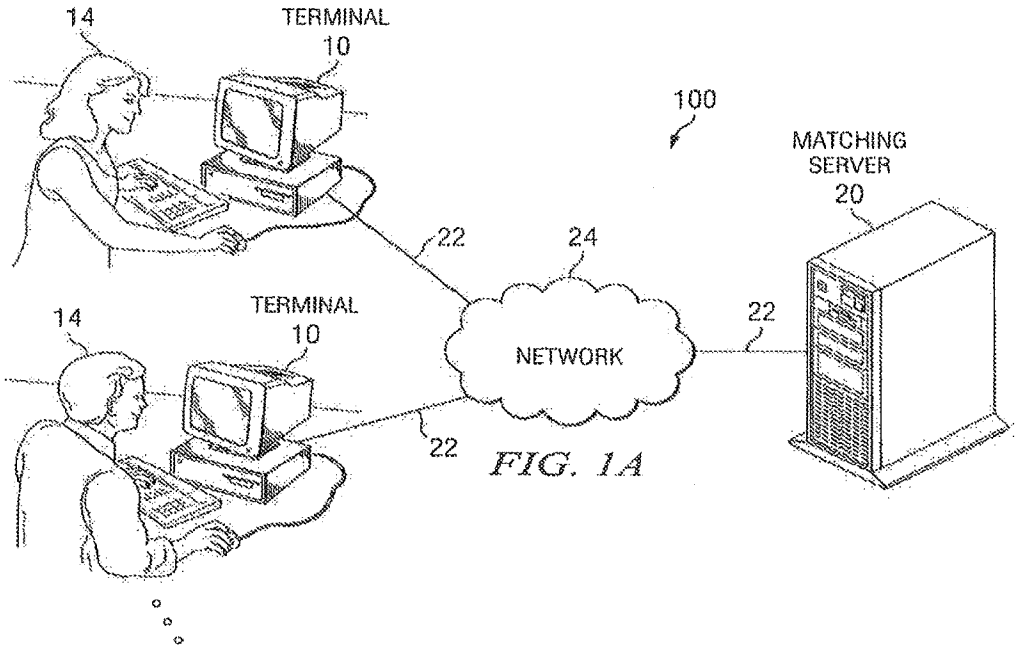


FIG. 1A

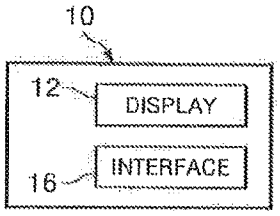


FIG. 1B

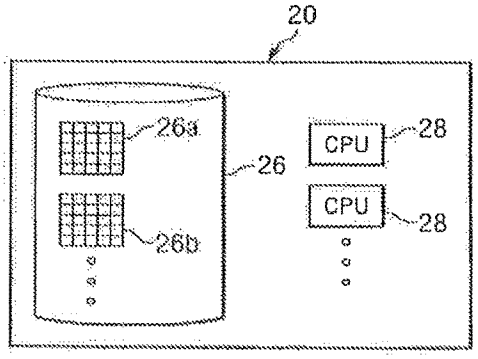


FIG. 1C

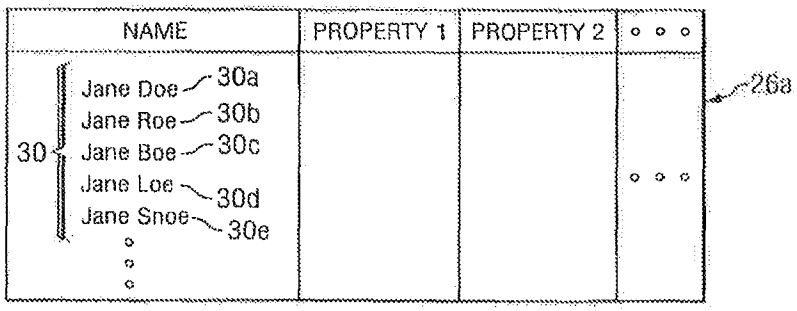


FIG. 1D

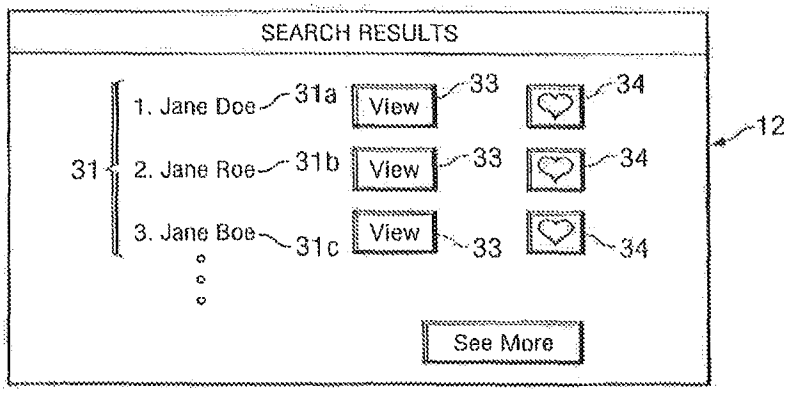


FIG. 1E

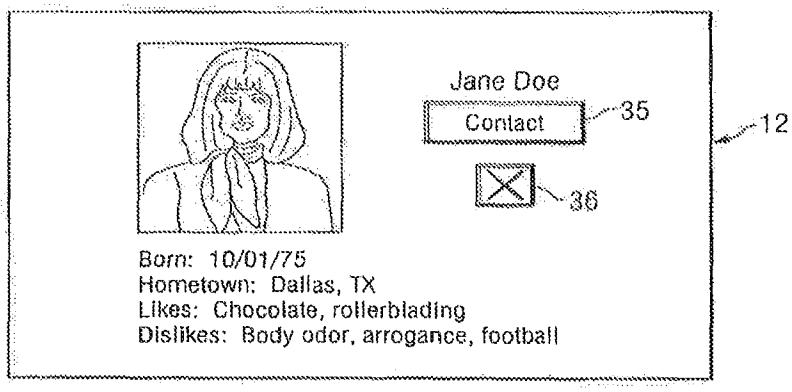


FIG. 1F

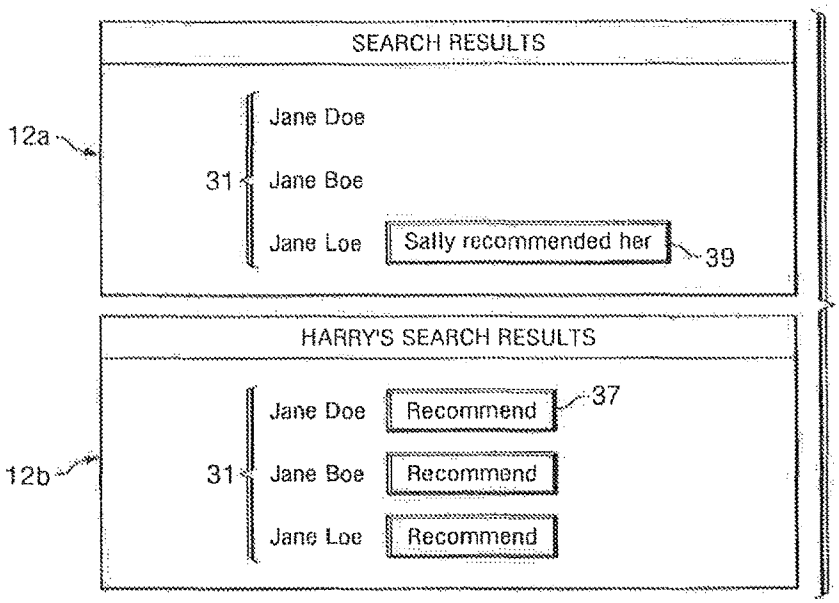

SEARCH RESULTS
12a
31
Jane Doe
Jane Boe
Jane Loe
Sally recommended her
39
HARRY'S SEARCH RESULTS
12b
31
Jane Doe
Recommend
37
Jane Boe
Recommend
Jane Loe
Recommend

FIG. 2

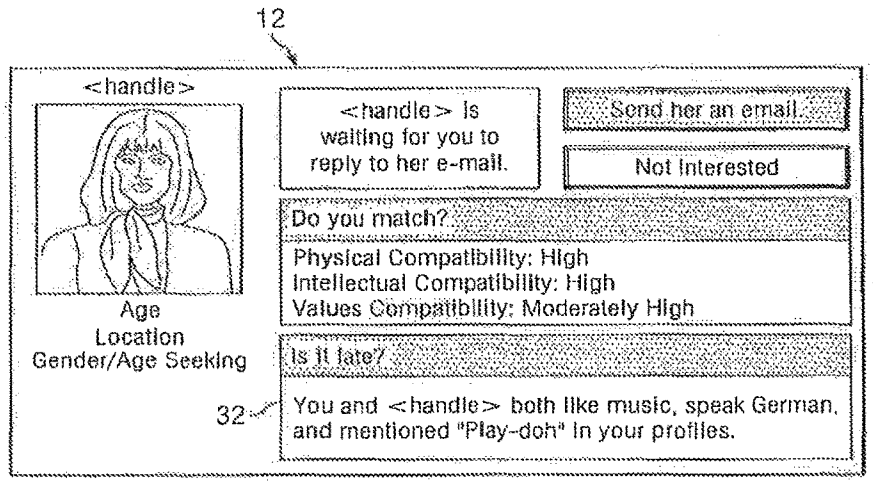

12
<handle>
Age
Location
Gender/Age Seeking
<handle> is waiting for you to reply to her e-mail.
Send her an email.
Not interested
Do you match?
Physical Compatibility: High
Intellectual Compatibility: High
Values Compatibility: Moderately High
Is it late?
32
You and <handle> both like music, speak German, and mentioned "Play-doh" in your profiles.

FIG. 3

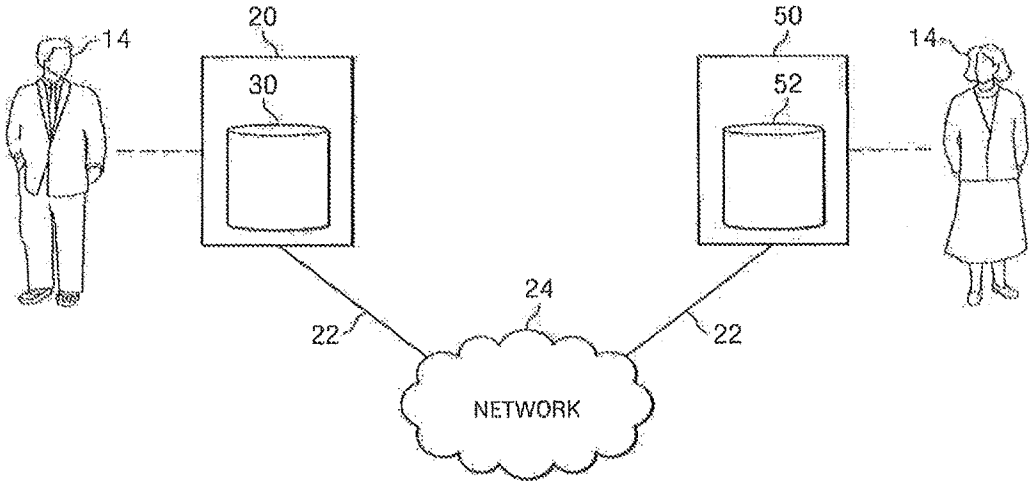

14
20
30
50
52
14
24
22
22
NETWORK

FIG. 4

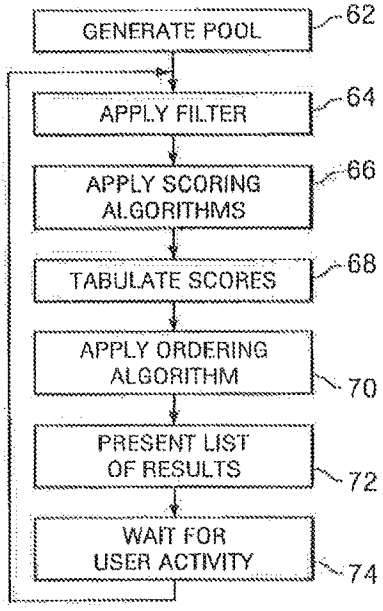

GENERATE POOL
62
APPLY FILTER
64
APPLY SCORING ALGORITHMS
66
TABULATE SCORES
68
APPLY ORDERING ALGORITHM
70
PRESENT LIST OF RESULTS
72
WAIT FOR USER ACTIVITY
74

FIG. 5

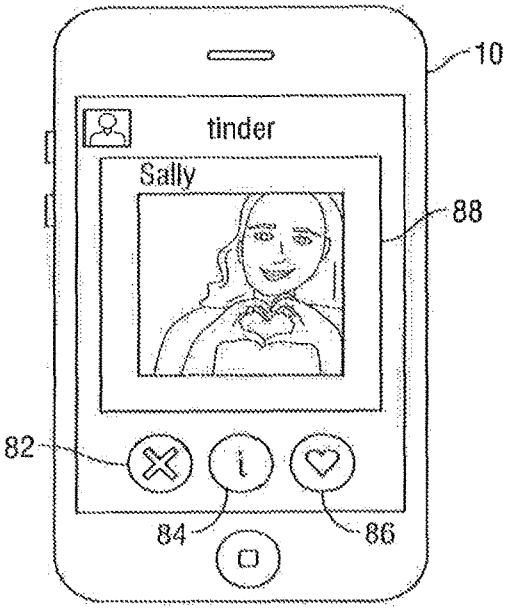


FIG. 6

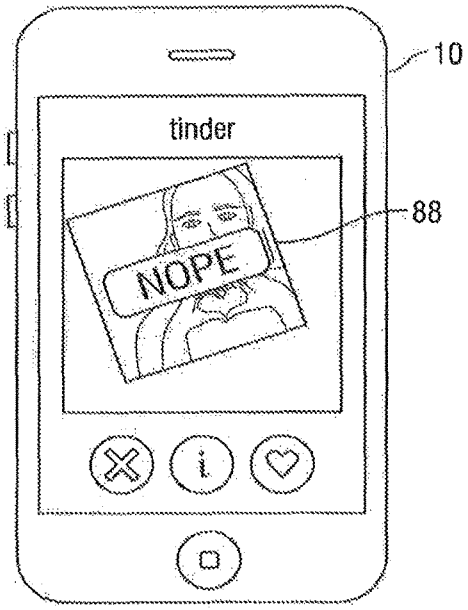


FIG. 7

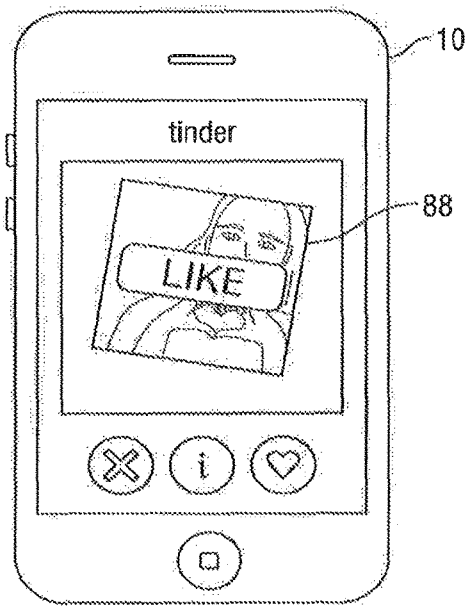


FIG. 8

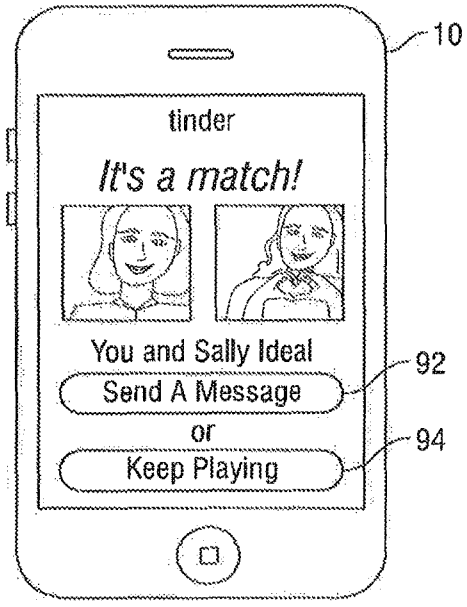


FIG. 9

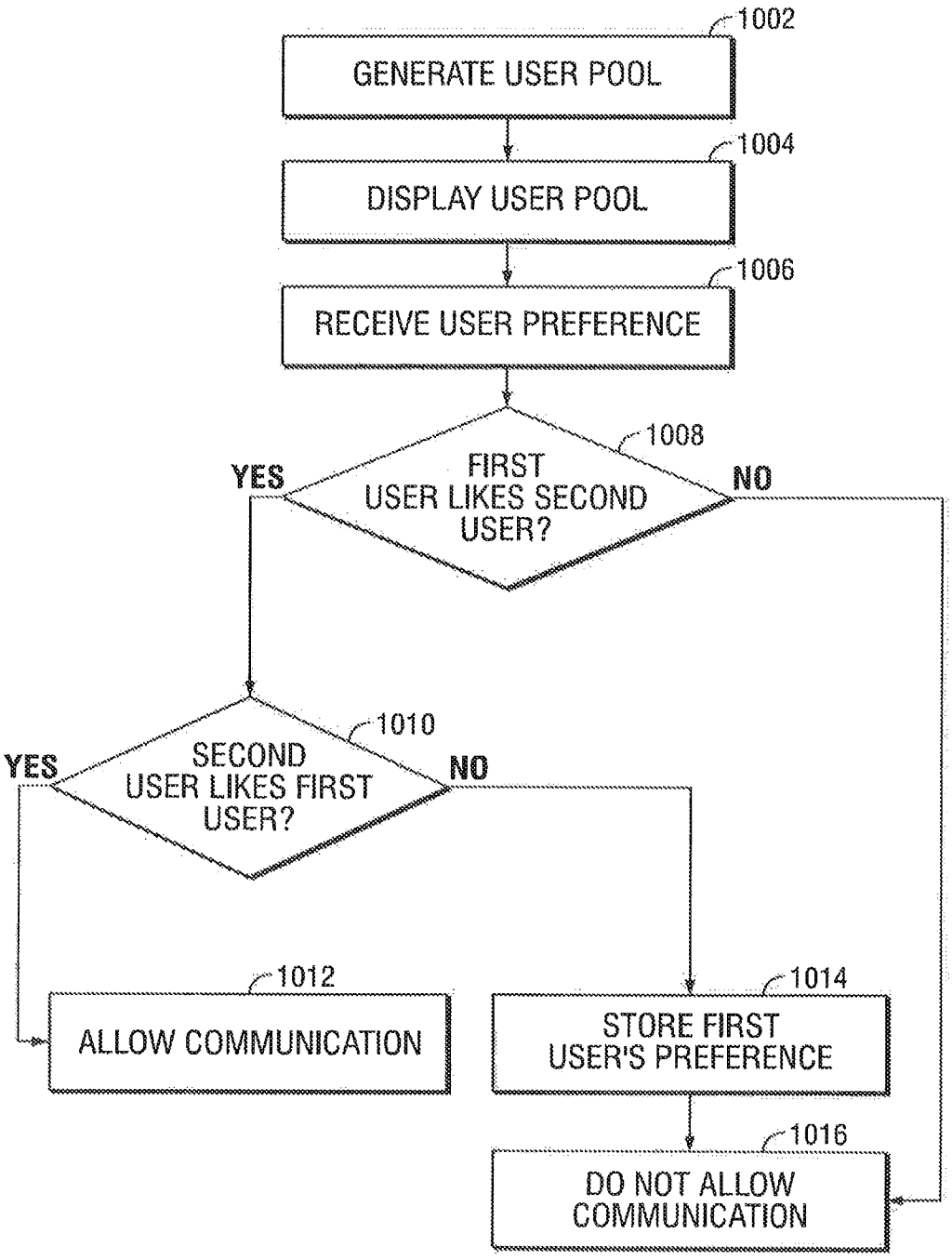

1002
GENERATE USER POOL
1004
DISPLAY USER POOL
1006
RECEIVE USER PREFERENCE
1008
FIRST USER LIKES SECOND USER?
YES
NO
1010
SECOND USER LIKES FIRST USER?
YES
NO
1012
ALLOW COMMUNICATION
1014
STORE FIRST USER'S PREFERENCE
1016
DO NOT ALLOW COMMUNICATION

FIG. 10

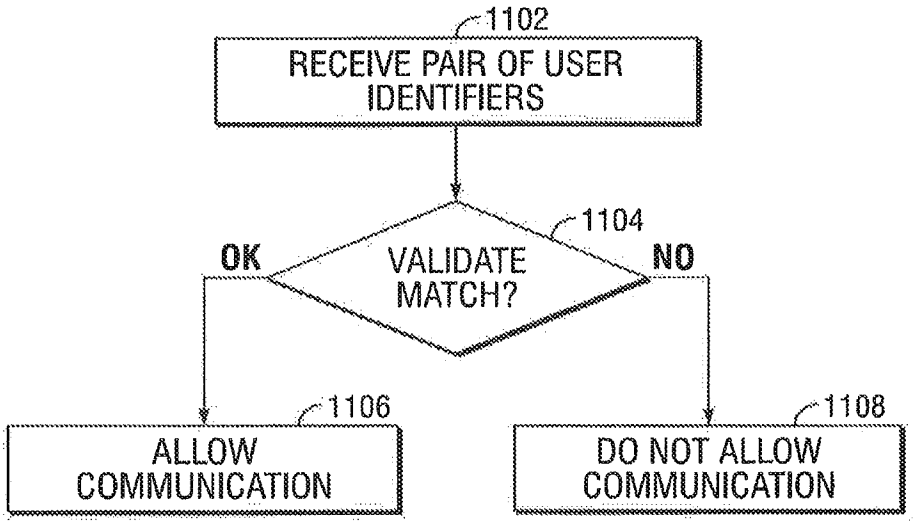

1102
RECEIVE PAIR OF USER IDENTIFIERS
1104
VALIDATE MATCH?
OK
NO
1106
ALLOW COMMUNICATION
1108
DO NOT ALLOW COMMUNICATION

FIG. 11

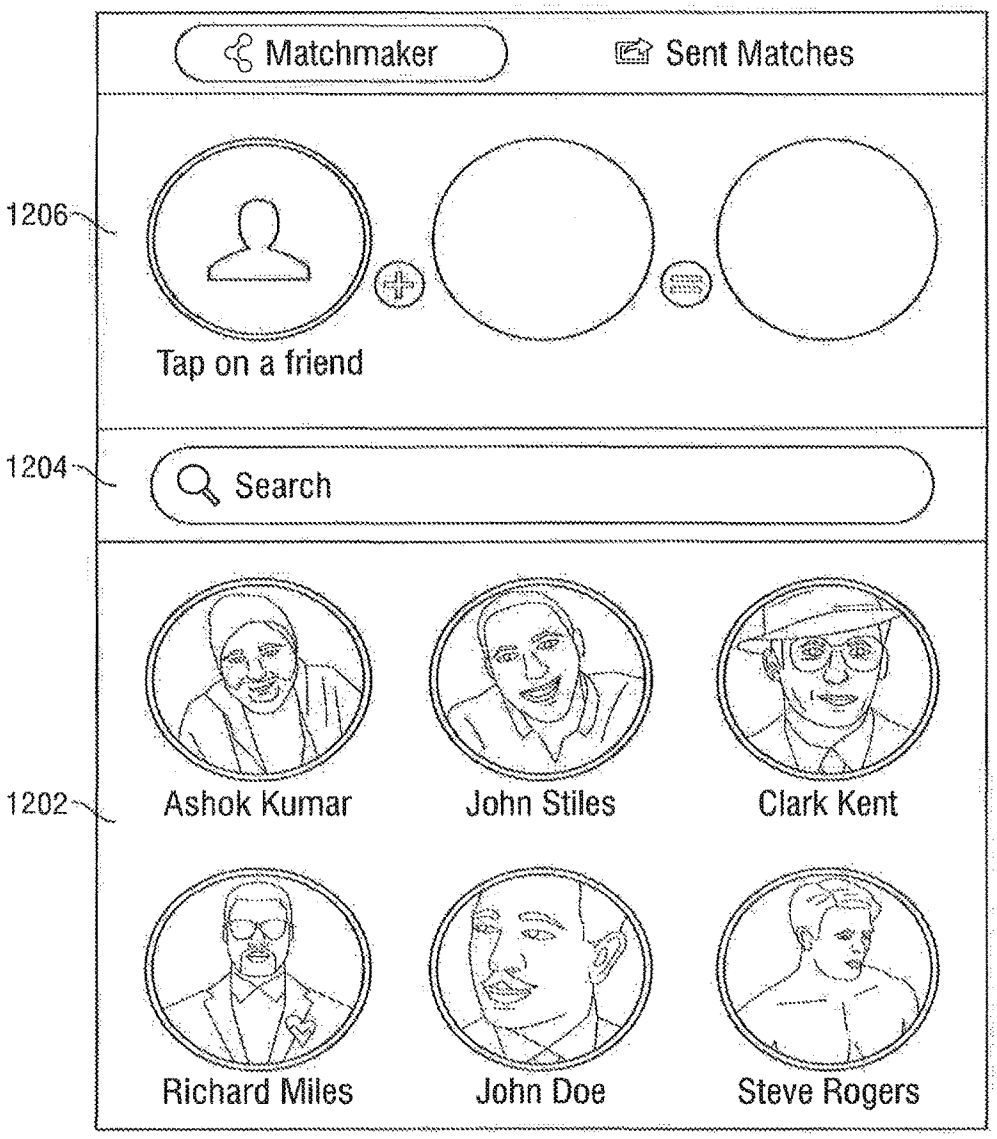

Matchmaker
Sent Matches
1206
Tap on a friend
1204
Search
1202
Ashok Kumar
John Stiles
Clark Kent
Richard Miles
John Doe
Steve Rogers

FIG. 12A

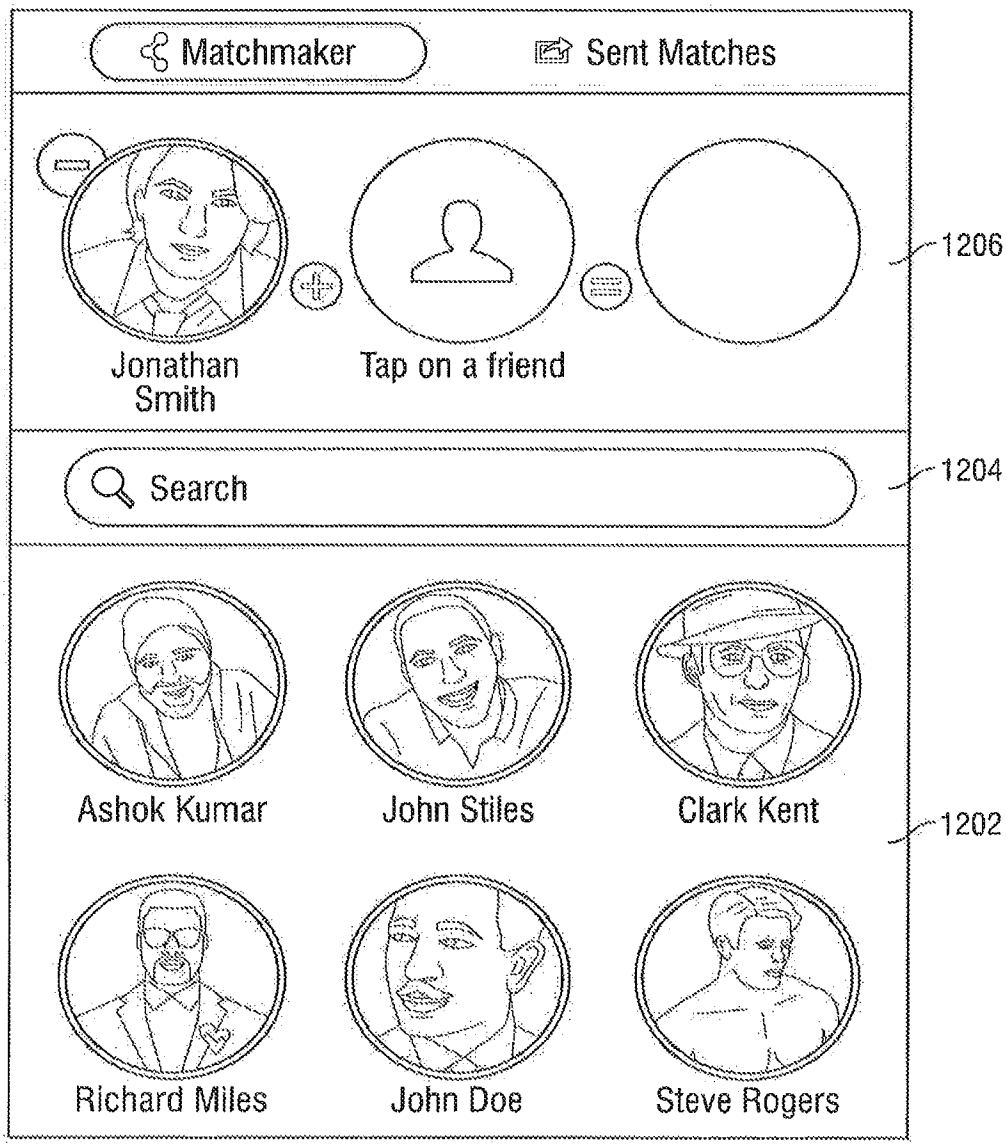

Matchmaker
Sent Matches
Jonathan Smith
Tap on a friend
1206
Search
1204
Ashok Kumar
John Stiles
Clark Kent
1202
Richard Miles
John Doe
Steve Rogers

FIG. 12B

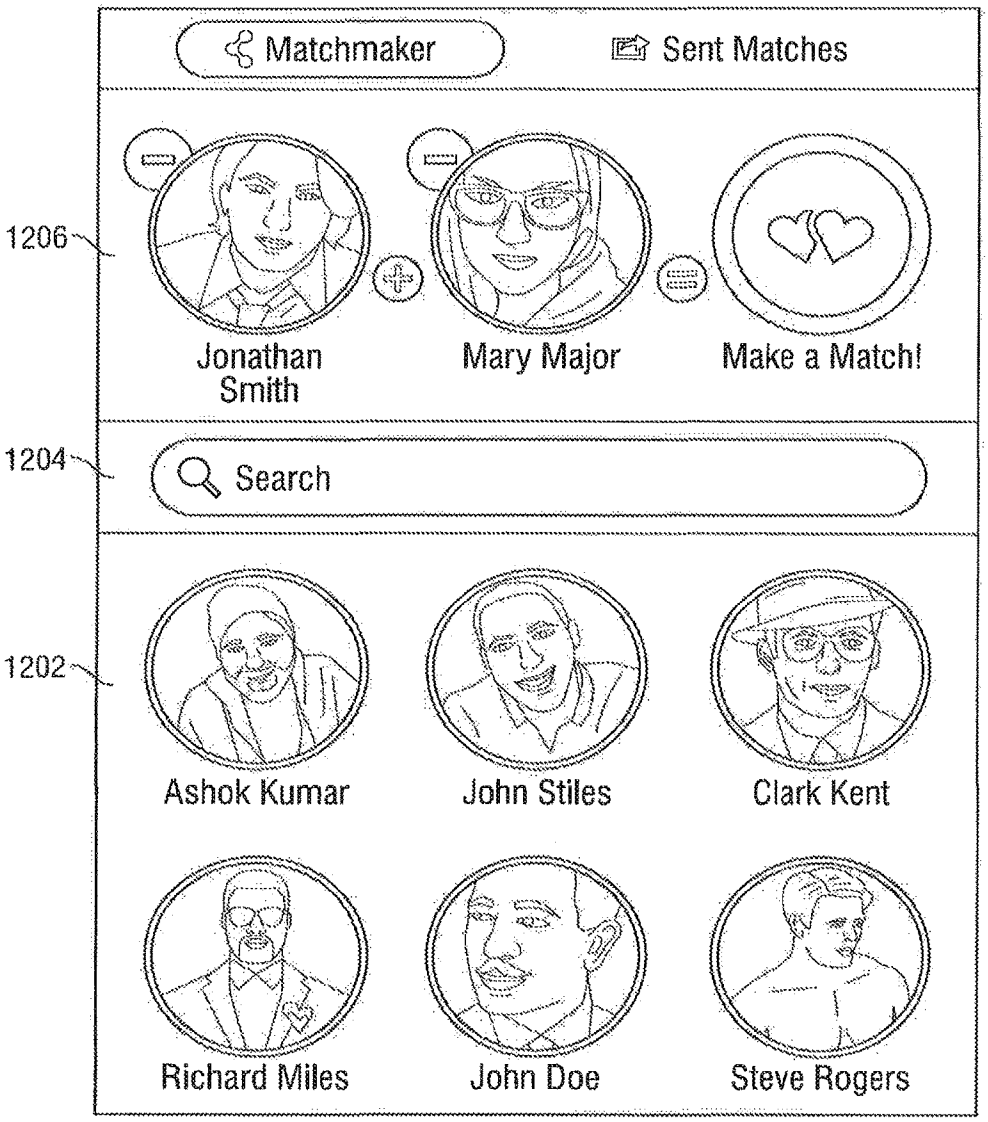

Matchmaker
Sent Matches
1206
Jonathan Smith
Mary Major
Make a Match!
1204
Search
1202
Ashok Kumar
John Stiles
Clark Kent
Richard Miles
John Doe
Steve Rogers

FIG. 12C

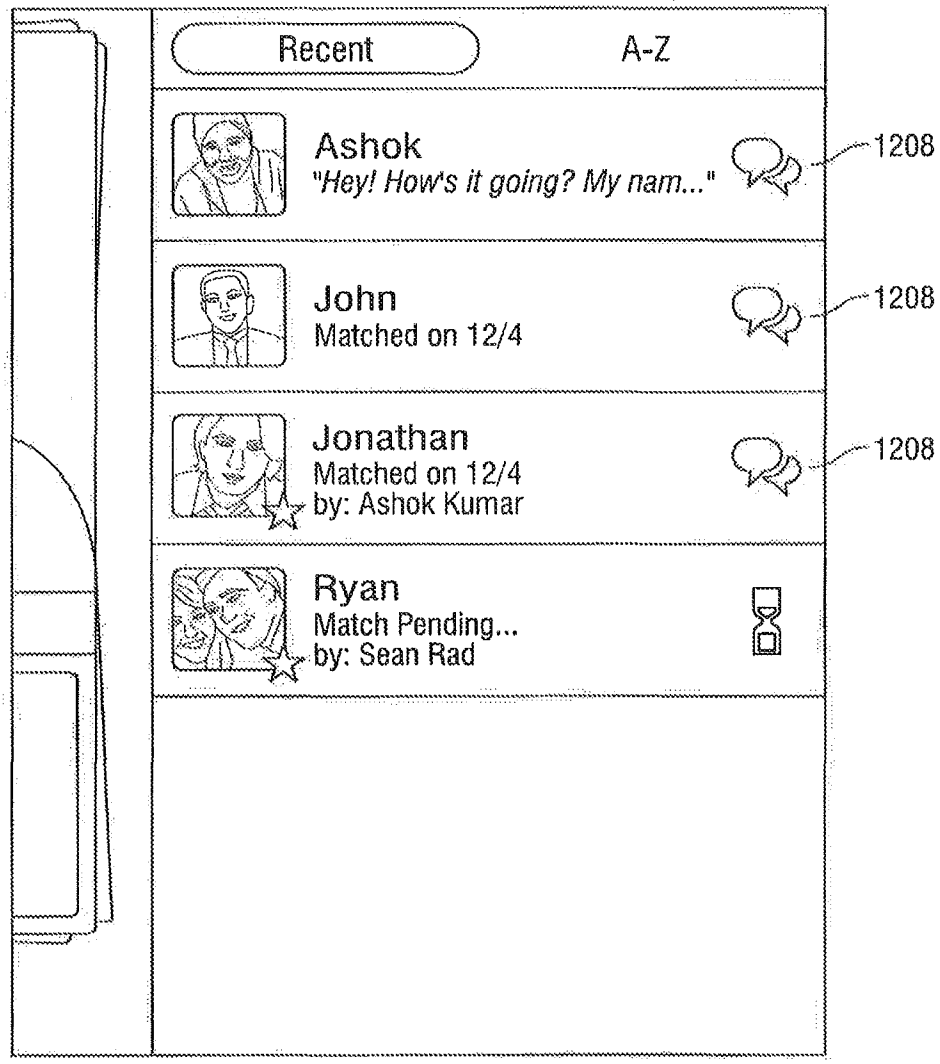

Recent
A-Z
Ashok
"Hey! How's it going? My nam..."
1208
John
Matched on 12/4
1208
Jonathan
Matched on 12/4
by: Ashok Kumar
1208
Ryan
Match Pending...
by: Sean Rad

FIG. 12D

MATCHING PROCESS SYSTEM AND METHOD

RELATED APPLICATIONS

This application is a continuation application of U.S. patent application Ser. No. 14/059,192, entitled "MATCHING PROCESS SYSTEM AND METHOD," filed Oct. 21, 2013, currently pending; which (a) is a continuation-in-part of U.S. patent application Ser. No. 12/339,301, entitled "MATCHING PROCESS SYSTEM AND METHOD," filed Dec. 19, 2008, now U.S. Pat. No. 8,566,327, issued Oct. 22, 2013; and (b) claims benefit under 35 U.S.C. § 119(e) to U.S. Provisional Application Ser. No. 61/793,866, entitled "SOCIAL MATCHING SYSTEM AND METHOD," filed Mar. 15, 2013.

TECHNICAL FIELD

This invention relates generally to computer matching systems and more particularly to a matching process system and method.

BACKGROUND

Networking architectures have grown increasingly complex in communications environments. In recent years, a series of protocols and configurations have been developed in order to accommodate a diverse group of end users having various networking needs. Many of these architectures have gained significant notoriety because they can offer the benefits of automation, convenience, management, and enhanced consumer selections.

Certain network protocols may be used in order to allow an end user to conduct an on-line search of candidates to fill a given vacancy. These protocols may relate to job searches, person finding services, real estate searches, or on-line dating. While some believe that on-line dating is simply a matter of matching supply and demand, there is statistical and empirical evidence to suggest that successful on-line dating entails far more.

For example, people having similar and/or compatible character traits and values should be matched together. However, effectively linking two participants together can prove to be a challenging endeavor. Coordinating a relationship between two like-minded individuals can be a significant chore, as there are a number of obstacles and barriers that must be overcome.

One problem that has arisen is that matching services are limited to searching for matches only within their own platform. Thus, only people who have gone through the process of signing up for the service are searched for a match. One solution to this problem is to have users register in multiple services. This is problematic because it can be expensive and time consuming for users. Further, the user must then visit all of the services to monitor the search progress: this inefficiency may cause users to give up on the search process.

Another problem is that the search results of these services contain many irrelevant entities to the searcher. This costs the user of the service time and may deter them from continuing through all of the search results.

Another problem is that large numbers of unwanted communication requests can become a nuisance to the user. Too many nuisance requests may deter the user from further use of the system. Users with the most attractive profiles are oftentimes the ones that receive the most unwanted attention. If the users with the most attractive profiles cease to use the system, the quality of the user pool deteriorates.

SUMMARY

In one embodiment, a method for profile matching comprises receiving a plurality of user profiles, each user profile comprising traits of a respective user. It also comprises receiving a preference indication for a first user profile of the plurality of user profiles. It further comprises determining a potential match user profile of the plurality of user profiles based on the preference indication for the first user profile. The method also comprises presenting the potential match user profile to a second user.

Receiving a preference indication for a first user profile may include receiving from a third user a recommendation of the first user profile for the second user. It may also include receiving from the second user a preference indication for the first user profile. The method may further include determining a score of a third user profile of the plurality of user profiles as a potential match for the second user. It may also include altering the score of the third user profile based on the preference indication for the first user profile.

In another embodiment, a method for profile matching comprises receiving a plurality of user profiles, each user profile comprising traits of a respective user. The method further comprises receiving a request for matches from a first user, the first user associated with a first user profile. The method also comprises scoring the plurality of user profiles for potential matching with the first user based on comparisons of the plurality of user profiles with the first user profile. It also comprises identifying a second user profile of the plurality of user profiles as a potential match for the first user based on the scoring. The method further comprises identifying commonality between a third user profile of the plurality of user profiles and the second user profile. In addition, the method comprises presenting to the first user the third user profile as a potential match for the first user.

Depending on the specific features implemented, particular embodiments may exhibit some, none, or all of the following technical advantages. Various embodiments may be capable of dynamically updating match search results based on user activity. Some embodiments may be capable of enhancing match search results by reducing the impact of restrictive user preferences. In addition, some embodiments may provide the ability to evaluate the attractiveness of potential matches. Various embodiments may be capable of importing user profiles from other social-networking systems. Some embodiments may be capable of generating the pool of users based on both explicit and implicit criteria derived from other social networking systems. Other technical advantages will be readily apparent to one skilled in the art from the following figures, description and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Reference is now made to the following description taken in conjunction with the accompanying drawings, wherein like reference numbers represent like parts, and which:

FIG. **1**A is an overview of one embodiment of the matching system;

FIG. **1**B shows the contents of the terminal from FIG. **1**A;

FIG. **1**C shows the contents of the matching server from FIG. **1**A;

FIG. **1**D is a diagram of a database from FIG. **1**C showing one embodiment of how a matching server stores a pool;

FIG. **1**E is a diagram of the display from FIG. **1**B showing one embodiment of the presentation of search results to a user;

FIG. **1**F is a diagram of the display from FIG. **1**B showing one embodiment of the presentation of details of a match result entity to a user;

FIG. **2** is a diagram depicting how a user may recommend an entity to another user, in accordance with a particular embodiment;

FIG. **3** is a diagram of the display from FIG. **1**B depicting how the user may be made aware of fate characteristics the user shares with a match result entity, in accordance with a particular embodiment;

FIG. **4** is a diagram depicting how two platforms may be searched for a match, in accordance with a particular embodiment;

FIG. **5** is a flow chart indicating how a result list may be generated, in accordance with a particular embodiment;

FIG. **6** shows one embodiment of the matching system displaying to a user the profile information of a second user;

FIG. **7** is a diagram of the display from FIG. **6** showing the effect of a left swipe gesture;

FIG. **8** is a diagram of the display from FIG. **6** showing the effect of a right swipe gesture;

FIG. **9** shows the matching system displaying a match of a first user and a second user, in accordance with a particular embodiment;

FIG. **10** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a mutual expression of approval, in accordance with a particular embodiment;

FIG. **11** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a user suggested matching proposal, in accordance with a particular embodiment; and

FIGS. **12**A-D depict embodiments of a user interface.

DETAILED DESCRIPTION

Referring to FIG. **1**A, one embodiment of a matching system is shown. FIG. **1**A is a simplified block diagram of a system **100** for facilitating an on-line dating scenario in a network environment. In other embodiments, system **100** can be leveraged to identify and to evaluate suitable candidates in other areas (e.g. hiring/employment, recruiting, real estate, general person searches, etc.). Users **14** interact with a matching server **20** through terminals **10**. FIG. **1**B is a diagram showing, in one embodiment, the contents of terminal **10**. Terminal **10** comprises interface **16** (so that user **14** may be able to interact with terminal **10**) and display **12**. FIG. **1**C is a diagram showing, in one embodiment, the contents of matching server **20**. Matching server **20** comprises memory **26** and at least one CPU **28**. Memory **26** may store multiple databases, such as databases **26***a* and **26***b*. Terminal **10** and matching server **20** are communicatively coupled via network connections **22** and network **24**.

Users **14** are clients, customers, prospective customers, or entities wishing to participate in an on-line dating scenario and/or to view information associated with other participants in the system. Users **14** may also seek to access or to initiate a communication with other users that may be delivered via network **24**. Users **14** may review data (such as profiles, for example) associated with other users in order to make matching decisions or elections. Data, as used herein, refers to any type of numeric, voice, video, text, or script data, or any other suitable information in any appropriate format that may be communicated from one point to another.

In one embodiment, terminal **10** represents (and is inclusive of) a personal computer that may be used to access network **24**. Alternatively, terminal **10** may be representative of a cellular telephone, an electronic notebook, a laptop, a personal digital assistant (PDA), or any other suitable device (wireless or otherwise: some of which can perform web browsing), component, or element capable of accessing one or more elements within system **100**. Interface **16**, which may be provided in conjunction with the items listed above, may further comprise any suitable interface for a human user such as a video camera, a microphone, a keyboard, a mouse, or any other appropriate equipment according to particular configurations and arrangements. In addition, interface **16** may be a unique element designed specifically for communications involving system **100**. Such an element may be fabricated or produced specifically for matching applications involving a user.

Display **12**, in one embodiment, is a computer monitor. Alternatively, display **12** may be a projector, speaker, or other device that allows user **14** to appreciate information that system **100** transmits.

Network **24** is a communicative platform operable to exchange data or information emanating from user **14**. Network **24** could be a plain old telephone system (POTS). Transmission of information emanating from the user may be assisted by management associated with matching server **20** or manually keyed into a telephone or other suitable electronic equipment. In other embodiments, network **24** could be any packet data network offering a communications interface or exchange between any two nodes in system **100**. Network **24** may alternatively be any local area network (LAN), metropolitan area network (MAN), wide area network (WAN), wireless local area network (WLAN), virtual private network (VPN), intranet, or any other appropriate architecture or system that facilitates communications in a network or telephonic environment, including a combination of any networks or systems described above. In various embodiments, network connections **22** may include, but are not limited to, wired and/or wireless mediums which may be provisioned with routers and firewalls.

Matching server **20** is operable to receive and to communicate information to terminal **10**. In some embodiments, matching server **20** may comprise a plurality of servers or other equipment, each performing different or the same functions in order to receive and communicate information to terminal **10**. Matching server **20** may include software and/or algorithms to achieve the operations for processing, communicating, delivering, gathering, uploading, maintaining, and/or generally managing data, as described herein. Alternatively, such operations and techniques may be achieved by any suitable hardware, component, device, application specific integrated circuit (ASIC), additional software, field programmable gate array (FPGA), server, processor, algorithm, erasable programmable ROM (EPROM), electrically erasable programmable ROM (EEPROM), or any other suitable object that is operable to facilitate such operations.

In some embodiments, user **14**, using terminal **10**, registers with matching server **20**. Registration may include user **14** submitting information to matching server **20** about user **14** as well as characteristics user **14** is seeking to be matched with. Such information may include a user handle, which may be a combination of characters that uniquely identifies user **14** to matching server **20**. In various embodiments, matching server **20** may be configured to collect this information; for example, matching server **20** may be configured to ask user **14** to respond to a series of questions. Matching

server **20** may be configured to receive the information submitted by user **14** and create a profile for user **14** based on that information, storing the profile in memory **26**.

As an example only, consider a case where user **14** is interested in participating in an on-line dating scenario. User **14** can access the Internet via terminal **10**, travel to a web site managed by matching server **20**, and begin the registration process. As part of the registration process, matching server **20** may ask user **14** a series of questions which identifies characteristics about user **14**. Thus, matching server **20** may ask about the height, weight, age, location, and ethnicity of user **14**. It may also ask about the birthplace, parents, eating habits, activities, and goals of user **14**. Matching server **20** may further use the registration process to discover what user **14** may be looking for in a match, such as age, weight, height, location, ethnicity, diet, education, etc. Further, matching server **20** may ask user **14** to indicate how important certain factors are when looking for a match. For example, matching server **20** may allow the user to indicate which characteristics in a potential match are a necessity. In another example, matching server **20** may ask, "How important is it that your match does not smoke?" Matching server **20** may also allow the user to indicate that certain characteristics are not important search criteria. For example, when asking user **14** about what height or weight user **14** is seeking in a match, matching server **20** may be configured to receive "not important" as a response. In yet another example, matching server **20** may allow user **14** to rate which factors are important on a numerical scale. For example, matching server **20** may ask user **14** the following: "On a scale of 1-10, how important is it that your match has the same education level as you?" In some embodiments, matching server **20** may specify that any number of questions or requested descriptions are necessary before registration may be concluded. As an example only, matching server **20** may require that user **14** communicate the sex of user **14** and the sex user **14** prefers to be matched with. After concluding the registration process, matching server **20** may store the responses of user **14** as a profile. This same process may be repeated by several different users **14**, causing matching server **20** to contain a plurality of profiles.

FIG. **1**D depicts an embodiment in which matching server **20** has a database **26***a* which contains a pool **30**. Each entry in database **26***a* has a pool entity **30***a* along with information concerning that entity. In one embodiment, each pool entity **30***a-e* represents a user and their profile. In some embodiments, not all registered users are in pool **30**. As discussed further below, matching server **20** may use a selection process for including stored profiles in pool **30**. As depicted in FIG. **1**D, in this embodiment, the collection of users and profiles forms pool **30** through which matching server **20** may perform various functions such as searches for matches.

Matching server **20** may be configured to search through pool **30** and present matches to user **14**. In FIG. **1**E, one embodiment of this presentation is depicted as occurring through display **12**. In various embodiments, matches may be presented to user **14** utilizing other communication schemes, such as electronic messages (i.e., e-mail) or text messages (i.e., utilizing SMS). In the depicted embodiment, a result list **31** is presented to user **14**. A match result entity **31***a* in a result list **31** may be associated with a view button **33**. Using interface **16**, user **14** may request that matching server **20** provide more information about an entity in result list **31** by pressing the associated view button **33**. Matching server **20** may then communicate to user **14** more information about that entity by retrieving the information from memory **26**. In FIG. **1**F, one embodiment of information that matching server **20** provides for user **14** is shown. Using display **12**, user **14** views an entity from result list **31**. Matching server **20** may also provide user **14** with the ability to contact the entity through a contact button **35**. In one embodiment, when contact button **35** is utilized by user **14**, matching server **20** may provide user **14** with contact information of the entity such as a telephone number or an e-mail address; in another embodiment, matching server **20** may provide user **14** with a way to directly contact the entity, such as sending a message or providing voice or video communication between user **14** and the entity. Even further, matching server **20** may be configured to allow user **14** to express a negative preference for the entity through dislike button **36**. In one embodiment, when, for example, dislike button **36** is utilized by user **14**, matching server **20** may remove the entity from result list **31**; in another embodiment, the entity may be removed from pool **30** of users from which matches are identified.

As an example only, consider that user **14** has submitted a search request to matching server **20**. Matching server **20** may search through pool **30**, identify results, and communicate result list **31** to user **14** which would contain other users for whom matching server **20** had created a profile and who were identified through a search and selection process. Next, user **14** may be interested in learning more about Jane Doe, entity **31***a*; thus, user **14** would click view button **33** associated with Jane Doe. Matching server **20** would receive this request and respond by displaying Jane Doe's profile (stored in memory **26**), as depicted in FIG. **1**F. Next, after reading the profile, user **14** may be interested in contacting Jane Doe; hence, user **14** would click contact button **35**. Matching server **20** would respond by allowing user **14** enter a message that matching server **20** would then communicate to Jane Doe.

Matching server **20** may even further be configured to allow user **14** to store a match result entity; in one embodiment, the system may be configured to allow user **14** to utilize favorite button **34** that will add the desired match result entity into another list. In another embodiment, utilizing favorite button **34** will remove the associated match result entity from result list **31**.

As an example only, user **14** may decide that he would like to save Jane Doe's profile so that he can review it later. User **14** may click favorite button **34**, and matching server **20** may respond by placing Jane Doe's profile into a separate list. Further, matching server **20** may also remove Jane Doe from user's **14** result list **31**. As a result, user **14** may see another match result entity populate result list **31**. This is beneficial because it may focus user **14** on evaluating new entities rather than reevaluating previously-known entities because the entities still appear in result list **31**.

In some embodiments, matching server **20** may be configured to generate pool **30** by default according to various characteristics and preferences of user **14** and other users of the system. Matching server **20** may also restrict entities from being included in pool **30** based on the status of the profile, or if user **14** has rejected or blocked an entity. Matching server **20** may also restrict entities from the pool that have blocked or rejected user **14**. For example, matching server **20** may not allow profiles that are not in good standing to be included in pool **30**. In other embodiments, matching server **20** may be configured to generate pool **30** by first choosing seeds. Seeds include, but are not limited to, profiles that user **14** has sent a message to or profiles that user **14** has expressed a preference for. Each seed is then compared to other entities to determine which entities will be included in pool **30**. Any suitable method can be used to

determine which entities are included in pool **30**. For example, any characteristics or algorithms described herein may form the basis of such a determination. As another example, a commonality score may be generated based on the comparison between each entity and the seed. In some embodiments, this commonality score can be a measure of how physically similar the users are to each other. This score may be generated based on the number of users that have expressed a positive preference for both the seed and the entity being compared. This score may also be generated based on whether the seed and entity have been viewed together in one session; further, the more times the seed and entity have been viewed together, the larger the commonality score. The law of large numbers may allow for a vast amount of such commonalities to be established over a few days. Testing has revealed that using such commonality scoring methods has yielded at least one physical match for 80% of users whose profile has been viewed at least once, and between 6 and 1000 physical matches for 60% of users whose profile has been viewed at least once. Matching server **20** may be further configured to allow entities that have a commonality score above a certain threshold to become a part of pool **30**. Matching server **20** may further be configured to update pool **30**. In some embodiments, matching server **20** may do so by creating new seed entities based on activity by user **14**, such as indicating a preference for that entity. Further, matching server **20** may then compare the chosen seed entity with other profiles stored in matching server **20** and determine whether those profiles will be included in pool **30** using a threshold score as described above. At least one advantage realized by this embodiment is that user **14** is presented with updated potential matches which increases the likelihood of user **14** finding a suitable match. Another advantage present in certain embodiments is that these updated potential matches have a greater likelihood of compatibility with user **14** since they are chosen based on their commonality with entities user **14** has expressed a preference for.

As an example only, consider the case in which user **14** has registered, requested a search, and received from matching server **20** results list **31**. Then, user **14** decides to contact Jane Doe and presses contact button **35**. Aside from providing user **14** with the ability to contact Jane Doe, matching server **20** will designate Jane Doe's profile as a seed. Matching server **20** will then compare Jane Doe's profile to other profiles stored in memory **26** in order to identify other users who may be similar to Jane Doe and thus be a good match for user **14**. In this example, matching server **20** will generate a commonality score for each of these comparisons and compare these scores to a preset threshold. If the commonality score is lower than the threshold, that profile will not be added to pool **30**. However, if the commonality score is higher than the threshold, matching server **20** will add this profile to pool **30**. As an example, further assume that the seed, Jane Doe, is being compared to another entity, Susan Smith. Based on the fact that both Susan and Jane have three users (Tom, Dick, and Harry) who have expressed a positive preference for their profiles, matching server **20** generates a commonality score of 100 for the comparison. In contrast, matching server **20** generated a commonality score of 50 for the comparison between the seed (Jane Doe) and yet another entity, Lucy Goosey. This was because only one user (Bob) had indicated a positive preference toward both Lucy and Jane. Continuing the example, matching server **20** is using a commonality threshold score of 70, which results in including Susan's profile (whose commonality score was greater than the threshold score) in pool **30** and excluding Lucy's (whose commonality score was less than the threshold score). Thus, user **14** gets the benefit of having more entities identified that may be good matches.

In some embodiments, matching server **20** may be configured to include behavioral scales. These may include multi-item scales for materialism and gender-role traditionalism. Such scales may provide the advantage of improved matching through deeper appreciation for the personality of entities in the system.

In some embodiments, matching server **20** may be configured to analyze profile text for categories. It may search for a number of text strings and then associate the profile with any number of categories. As an example only, matching server **20** may add any profile to the Cat category whose text contains any of the following strings:

"cat" "cats" "cat." "cats." "cat," "cats,"

Matching server **20** may be configured to make it more likely that a profile will be in a result list if categories associated with the profile are also categories found in the user's profile who submitted the search request.

Matching server **20** may be configured to analyze one or more portions of the text of an entity's profile and generate a readability score that may be used in various ways, such as in the process of searching for matches for user **14**. In some embodiments, matching server **20** may analyze factors such as, but not limited to: average number of words per sentence, total number of words with greater than three syllables, and total number of words in the profile. Matching server **20** may also concatenate all of the collected responses with a single space between them. It may further break the text into sentences, words, and syllables. From these statistics, matching server **20** may also be configured to generate a readability score by, in one embodiment, taking the average of the Flesch Kincaid Reading Ease test, the Flesch Kincaid Grade Level test, and the Gunning Fox score. Other embodiments may utilize any other combination of these or other tests to determine a readability score. In some embodiments, analyses may be used to determine the IQ of an entity, the grade level of the writing, or how nervous the entity generally is. An advantage of this embodiment may be that the system provides user **14** with a metric for determining approximate intelligence of other users. The readability score may be used, for example, in the matching process to identify potential matches.

As an example only, the Flesch Kincaid Reading Ease score may be generated by first computing the following intermediate score:

$$206.835-(1.015*[\text{Average Words per Sentence}])-(84.6*[\text{Average Syllables per Word}])$$

Then, the Flesch Kincaid Reading Ease score is determined by using the following table:

Intermediate Score Condition	Flesh Kincaid Reading Ease Score
<100	4
<91	5
<81	6
<71	7
<66	8
<61	9
<51	10
<31	13
<0	14
Else	15

The Flesch Kincaid Grade Level may be computed according to the following:

(0.39*[Average Words Per Sentence])+(11.8*[Average Syllables Per Word])−15.59

The Gunning Fox score may be computed according to the following:

([Average Words Per Sentence]+(([Number Of Words With More Than 3 Syllables]/[Number of Words In Entire Text])+100))*0.4

As indicated, any suitable tests may be utilized in any suitable manner to determine a readability score.

In some embodiments, matching server **20** may be configured to allow a user to interact with the result list of another user. Matching server **20** may be configured to allow a user to express a preference for entities within a result list of another user, and to indicate to the other user of this preference. Thus, a user may be able to get advice from a friend regarding what other users may constitute good matches for the user and thus be able to find a better match.

As an example only, consider FIG. **1**A and FIG. **2**. Two users **14**, Harry and Sally, are connected to matching server **20** via terminals **10**. Display **12***a* is used by Harry while display **12***b* is used by Sally. Matching server **20** allows Sally to view Harry's result list **31** on her terminal in display **12***b*. By pressing recommend button **37**, Sally may indicate a preference for one or more of the entities in result list **31**. Assume Sally presses recommend button **37** associated with Jane Loe. After doing so, matching server **20** will notify Harry of Sally's preference. On Harry's display **12***a*, matching server **20** will cause notification **39** to appear, associating it with Jane Loe. Notification **39** will indicate to Harry that Sally has recommended Jane Loe as a potential match. Harry may find Sally's preference helpful in determining which entities he should pursue further if, for example, he believes Sally understands the type of person he is looking for.

In one embodiment, matching server **20** may be configured to analyze the profiles of both user **14** and the entities in pool **30** for keywords. Matching server **20** may be configured to search through the profile of user **14** for keywords that relate to things such as activities and interests. Matching server **20** may generate a score for each entity in pool **30** based on a comparison between the list of keywords found in user's **14** profile and a similarly-generated list of keywords of each entity in pool **30**. In one embodiment, this is accomplished by storing a list of words in memory **26**, and using it to identify keywords in the searched profiles. In some embodiments, identified keywords may be used as a means of weighting various scores. As an example only, a profile that contains the word "God" may be weighted much differently than a profile which has merely indicated that their religious preference is Christian. In various embodiments, this may provide an advantage to user **14** in that user **14** is able to determine how similar he/she is with a potential match. In addition, the keyword analysis may be used by the system when searching and identifying matches for a user.

As an example only, consider two registered users, Harry and Sally, both of whom have profiles stored in matching server **20**. Matching server **20** then analyzes each of these profiles by comparing it to a list of predefined keywords. Matching server **20** then associates each word that matched the list of keywords with each profile. Now assume that Harry performs a search. While fulfilling Harry's query, matching server **20** evaluates Sally's profile for inclusion in Harry's result list **31**. This evaluation includes comparing the list of keywords found in Harry's profile to the keywords found in Sally's profile. The more keywords that Harry and Sally have in common, the more likely it will be that matching server **20** will include Sally's profile in Harry's result list **31**.

In some embodiments, matching server **20** may be configured to impute a level of physical attractiveness to an entity in pool **30**. Matching server **20** may be configured to monitor how frequent an entity in pool **30** has been viewed as well as how many times that entity has been part of a result list in order to impute the level of physical attractiveness. Matching server **20** may further be configured to generate a score based on this data. Further, in some embodiments, matching server **20** may impute physical attractiveness to an entity based on the imputed physical attractiveness scores of other entities. Matching server **20** may compute an average of the imputed physical attractiveness scores of the other entities weighted by the commonality score between each of the other entities and the present entity. Empirical data indicates that people are more likely to match with people of similar attractiveness. Thus, in many embodiments, a user may obtain an advantage in that they are able to be presented with potential matches that, according to one measurement, are as attractive as the user.

As an example only, consider a registered user, Sally, whose profile was created by matching server **20** in January. Since that time, matching server **20** has recorded the number of times Sally's profile has appeared in any user's result list **31**; assume that this has occurred 10 times. Further, matching server **20** has also recorded the number of times a user has viewed Sally's profile by clicking view button **33** associated with Sally's profile; assume that this has happened 5 times. In this manner, matching server **20** has constructed a ratio that represents the imputed physical attractiveness of Sally's profile. Still further, assume that Harry, a registered user, now submits a query. Matching server **20** has evaluated the imputed physical attractiveness ratio of Harry's profile. When evaluating Sally's profile for inclusion in result list **31** returned to Harry, matching server **20** will compare the imputed physical attractiveness of Sally's profile and Harry's profile. The more similar the ratios associated with Harry and Sally's profiles are to each other, the more likely it is that Sally's profile will be selected by matching server **20** to be in Harry's result list **31**. In another example, assume that Sally's profile has not been registered long enough to generate a meaningful imputed physical attractiveness ratio. Matching server **20** may then generate an imputed physical attractiveness score based on entities that Sally does have commonality scores with. This computed average may be weighted by the strength of the commonality score between Sally and each entity with whom she has a commonality score. Continuing the example, assume that Sally has a commonality score of 5 with Lucy and 10 with Julia. When matching server **20** computes the Sally's average, it will give twice as much weight to Julia's imputed physical attractiveness score than to Lucy's.

In some embodiments, matching server **20** may be configured to make an entity in result list **31** more appealing to user **14** by pointing out coincidences in the profile data that give user **14** a sense of fate with the entity. In one embodiment, matching server **20** may be configured to search for similar initials, birthplaces, birth dates, birth month, birth year, university, first names, last names, user handles, parental occupations, and keywords to identify users who may give another user a sense of fate. In other embodiments, matching server **20** may use the fate characteristics as a metric in the matching process.

As an example only, assume that Harry is a registered user who has performed a search. After matching server **20** returns a result list, Harry chooses to learn more about one of the entities in the result list and clicks view button **33**. Consider FIG. **3**, which is only an example of information that matching server **20** may return to Harry after clicking view button **33**. In Harry's display **12**, matching server **20** presents certain details about the profile. In particular, matching server **20** presents to Harry a fate notification **32** which points out specific similarities between the profile of the entity and Harry's profile. Reading fate notification **32** gives Harry a sense of familiarity which enhances his appreciation for the profile.

In another example, fate characteristics may be used to decide whether a profile in pool **30** is included in user's **14** result list **31**. Assume that Harry is a registered user who has submitted a matching query to matching server **20**. While determining which entities to include in Harry's result list, matching server **20** considers two profiles: Sally and Roxy. Sally and Harry both have the same birth date, initials, and have parents that work in the same profession. In contrast, Roxy and Harry only share the same birth place. Matching server **20** may be configured to award more points to Sally than to Roxy based on these comparisons, making it more likely that Sally's profile will be included in Harry's result list.

In some embodiments, matching server **20** may be configured to evaluate the likelihood of contact between user **14** and an entity in pool **30**. Matching server **20** may be configured to compare demographic data between user **14** and pool entity **30***a*. In another embodiment, matching server **20** may be configured to weigh the demographic similarities and differences based on the sex of user **14**. The demographic data may include, but is not limited to, age, education, ethnicity, income, and location.

As an example only, assume that Harry and Sally are registered users who have profiles in matching server **20**. Harry has submitted a search request to matching server **20**. While fulfilling this request, matching server **20** evaluates Sally's profile since her profile is in pool **30**. As part of the evaluation, matching server **20** looks at the differences between Harry and Sally's stated age, income, education, ethnicity, and location. In this example, Harry is 10 years older than Sally, makes $10,000 more per year, and has a Master's degree while Sally has a bachelor's degree. Even with these disparities, matching server **20** will give Sally's profile a high score which makes it more likely that Sally's profile will appear in Harry's result list. However, if it was Sally who submitted the search, and matching server **20** was evaluating Harry's profile, a different score is possible. So, if it were Sally who was 10 years older, made $10,000 more per year, and had a Master's degree while Harry had a Bachelor's degree, matching server **20** would give a low score to Harry's profile, making it less likely that his profile would appear in Sally's result list. Matching server **20** may be configured this way because empirical data has shown that these demographic differences do not have an equivalent effect on the choices men and women make regarding matches.

In another embodiment, matching server **20** may be configured to compare the locations of user **14** and pool entity **30***a* in increments of ten miles. In yet another embodiment, matching server **20** may be configured to score the location comparison in light of other factors; as an example, matching system **20** may be configured to return a score consistent with a 10 mile difference in location even though there is a 50 mile difference between user **14** and pool entity **30***a* if user **14** and pool entity **30***a* have the same income, education, and age. An advantage realized in several embodiments is that it better approximates how a user evaluates entities. Entities that live further away are generally less appealing to a user; but, users may still be interested if the entity matches their preferences in other categories.

As an example only, consider a registered user, Harry, who submits a search request. While fulfilling this request, matching server **20** examines Sally's profile in pool **30**, and determines that the stated locations of Harry's and Sally's profiles are 13 miles apart. Matching server **20** will give Sally's profile a score as if the distance between them were only 10 miles. However, in yet another example, Sally's profile may indicate that she lives 50 miles away from Harry. Yet, matching server **20** also notes that both Harry and Sally make $100,000 per year, have Master's degrees, and that Harry and Sally are one year apart in age (Harry is older). Given these similarities, matching server **20** will give a score to Sally's profile that is consistent with a 20 mile difference in location even though they are actually 50 miles apart. In this manner, matching server **20** takes into account empirical data that shows that people searching for matches who indicate that they want to see matches who live close to them are still willing to pursue a potential match that lives far away if the potential match fits very closely with the other search criteria.

In another embodiment, matching server **20** may be configured to evaluate the age difference between user **14** and pool entity **30***a* using ranges as well as a sliding scale. By way of example only, matching server **20** may be configured to assign a high value to an age difference between 0 and −5, while assigning a lower value to an age difference between +2 and 0. An even lower value may be assigned to an age difference between −6 and −8. Even lower values would be assigned incrementally as the age difference increases outside of the ranges discussed. The higher the assigned value is, the more likely it will be that pool entity **30***a* will be included in result list **31**. Yet another embodiment may apply this combination of ranges and a sliding scale but use different values and ranges depending on the sex of user **14**.

As an example only, consider a situation in which a registered user, Harry, requests a search to be performed. While fulfilling this request, matching server **20** evaluates Sally's profile, which was in pool **30**. As part of the evaluation, matching server **20** compares the ages of Harry and Sally, and determines that Harry is two years older than Sally; this determination leads to matching server **20** assigning, in this example, 50 points to Sally's profile. Matching server **20** may also be configured to assign 50 points to Sally's profile had she been five years younger than Harry; but, if she had been up to two years older than Harry, matching server **20** may have been configured to assign 40 points to her profile. Matching server **20** may be further configured to assign 30 points to Sally's profile if she was 6 to 8 years younger than Harry. However, if Sally were more than 8 years younger than Harry, matching server **20** may be configured to further decrease the number of points assigned to her profile: if she was 9 years younger, then 25 points; if she was 10 years younger, 20 points; if she was 11 years younger, 15 points; etc. The more points assigned to Sally's profile, the more likely it is that her profile will appear in Harry's result list. Thus, matching server **20** may be configured to assign a score based on age difference using a combination of ranges and a sliding scale.

In another example, matching server **20** may assign scores differently if it was Sally who was searching and if it was

Harry's profile that was being evaluated. In this example, matching server **20** may be configured to assign Harry's profile 50 points if he were between 1 and 5 years older than her. If he were 6 to 8 years older than her, matching server **20** may assign 45 points. If he were greater than 8 years older than her, matching server **20** may assign points in the following fashion: if he was 9 years older, 40 points would be assigned; if he was 10 years older, 35 points would be assigned; etc. However, if he was up to two years younger than Sally, matching server **20** may assign 50 points to his profile. If he were more than two years younger, matching server **20** may assign less points on a sliding scale: 45 points if he were 3 years younger, 40 points if he were 4 years younger, etc. The more points assigned to Harry's profile, the more like it is that his profile will appear in Sally's result list. This example illustrates how matching server **20** may be configured to take the sex of user **14** into account when scoring based on age differences.

In various embodiments, matching server **20** may be configured to evaluate the attractiveness of an entity in pool **30** through collected feedback from other users. In one embodiment, matching server **20** may present an entity to user **14**, prompting user **14** to rate the attractiveness of the entity on a scale from 1-9. This range gives the advantage of having a midpoint. Matching server **20** may further be configured to collect such responses and store them; in one embodiment, matching server **20** may store the data in memory **26**, using a structure such as database **26***b*. Matching server **20** may further be configured to compute the average of such responses for the entity, and store this number as well. In various embodiments, these values may be used in order to help in the matching process. Empirical data indicates that people are more likely to match with people of similar attractiveness. Thus, in various embodiments, users whose attractiveness rating are similar will be more likely to appear in each other's result list. Further, a user may indicate that they only want profiles in their result list whose average attractiveness rating is higher than an indicated threshold.

As an example only, assume registered user, Harry, uses terminal **10**, which in this example is Harry's personal computer, and establishes communication with matching server **20**. In this example, this communication occurs by Harry using a Web browser to access a Web page controlled by matching server **20**. Sometime after visiting the Web page, matching server **20** may present Harry with an option to rate the physical attractiveness of other users registered with matching server **20**. Using display **12** and interface **16**, Harry may view profiles of registered users and rank them on a scale of 1-9 by entering the values using interface **16**; in this example, interface **16** comprises a mouse and/or a keyboard. After submitting this rating, matching server **20** will associate it with the profile and store it. Matching server **20** will also allow other users to rate profiles, thereby collecting a plurality of rankings for profiles. Matching server **20** may use this data when trying to find matches for users. One example of this is that matching server **20** may allow user **14** to specify that he/she is searching for profiles which have an average rating of 6 or above. In turn, matching server **20** may populate user's **14** result list from the pool only with profiles whose average rating is at 6 or above. Another example of how matching server **20** may use this data involves making it more likely that an entity will appear in a user's result list if the entity and that user have a similar average attractiveness rating. So, if a user has an average rating of 6, then an entity with an average rating of 5 may be more likely to appear in the user's result list than an entity with an average rating of 2.

In another example, assume that Harry is a registered user and has requested a search. While fulfilling this request, matching server **20** evaluates Sally's profile. As part of this evaluation, matching server **20** notices that Sally's profile contains feedback from other users ranking the attractiveness of Sally's profile. Matching server **20**, in this example, averages that data; Sally's profile average is 6. Matching server **20** may then examine Harry's profile to determine a similar average. If Harry's profile has an average close to 6, it will be more likely that matching server **20** will include Sally's profile in Harry's result list. If Harry's profile average is lower than 6, it will be less likely that Sally's profile will be included in Harry's result list. If Harry's profile average is greater than 6, it will be even less likely that Sally's profile will be included in Harry's result list. The more Harry's profile average deviates from that of Sally's, the less likely it will be that matching server **20** will present Sally's profile in Harry's result list.

In some embodiments, matching server **20** may be configured to analyze profile information and received activity information to construct "pairs" which link at least two profiles. These pairings may also be associated with a value that ascertains the quality of the pairing. For example, a pairing which results from one user viewing the profile of another user may be assigned a value that is less than a pairing which results from a first user viewing the profile of a second user when the second user has also viewed the first user's profile. Matching server **20** may use these pairings in order to generate search results for entities within and outside of the pairing. Each member of the pair may be used as a seed entity for generating search results for users in matching server **20**. In various embodiments, an advantage may be realized as matching server **20** analyzes many of these pairs to develop dynamic results to users of the system, the results being potentially more relevant as matching server **20** leverages the interaction between users and profiles to generate search results.

Pairs may be formed from a variety of user activity received by matching server **20**. This activity may include: profile views, mutual profile views, one-way double blind communication, mutual double-blind communication, declining double blind communication, one way wink, mutual wink, expressing disinterest in response to receiving a wink, one way favorite, and mutual favorite. Other suitable activity may also be received by matching server **20** and utilized as a basis for generating pairs.

For example, Harry may be a registered user who has expressed a positive preference for Sally. Matching server **20** may be configured to generate a pair which includes Harry and Sally. Matching server **20** may utilize this pair when providing search results to other users. Betty may have requested matches, and Betty may be similar to Sally. Matching server **20** may present Harry in Betty's result list as a result of the pairing between Harry and Sally. Further, Jim may have executed a search and Jim may be similar to Harry. As a result of the pairing between Sally and Harry, matching server **20** may present Sally in Jim's list of search results.

In some embodiments, matching server **20** may be configured to encourage user **14** to interact with entities in pool **30**. For example, matching server **20** may present a list of limited entities from pool **30** to user **14**, but not present other entities to user **14** unless user **14** interacts with the already presented entities. Possible interaction with these entities may include viewing more information regarding the entity,

expressing a positive or negative preference for the entity, and choosing to contact the entity. Other suitable forms of interaction may also be utilized. For example, matching server **20** may prompt the user with a question about the list of entities, such as asking whether or not the user likes the entity. Responses to such prompts may include "yes," "maybe," "no," "remove," and "remove other." The presented entities may be chosen using a variety of methods. For example, the presented entities may be chosen based on various scoring algorithms as described above. In addition, presented entities may be chosen using predictive analysis, such as logistical regression. Other techniques may be used to determine the presented entities. For example, entities that have been presented previously may be excluded. As another example, entities that have been blocked by user **14** may also be excluded. In various embodiments, a combination of these techniques as well as others may be used to determine the limited number of entities presented to user **14**.

For example, Harry may be a registered user of the matching system. Matching server **20** may be configured to present to Harry a list of five entities that Harry must interact with. Once Harry has interacted with these entities, matching server **20** may present five more entities for Harry to interact with. Previously, Harry has blocked Sally, another registered user of the system. As a result, matching server **20** may exclude Sally from being presented to Harry in the list of five entities. Further, Harry has already interacted with Betty, another registered user of the system: Harry sent a message to Betty utilizing matching server **20**. As a result, Betty will be excluded from being presented to Harry in the list of five entities. Matching server **20** may then choose two of the five entities using scoring algorithms described above. For example, matching server **20** may choose Alice and Amy to be presented in the list of five entities because Alice and Amy have received high scores when their profiles were compared to Harry's profile. Matching server **20** may choose the remaining three entities using predictive analysis. According to this example, matching server **20** may use logistical regression to identify Carla, Christi, and Camela as the other three entities to present to Harry. Thus, in this example, Harry is presented with a list of five entities by matching server **20**. Matching server **20** may not present another set of five entities until Harry has interacted with these five entities. Harry may interact with these entities in a variety of ways. For example, Harry may send a message to Alice and send a "wink" to Amy. In addition, Harry may choose to view more information about Carla's profile, but express a negative preference towards Christi and Camela. After matching server **20** receives these types of interaction with the presented five entities, another set of five entities may be presented to Harry.

In this example, matching server **20** may further be configured to process the user interaction provided by Harry. For example, matching server **20** may utilize Alice's profile as a seed entity to generate other possible entities to present to Harry since Harry sent a message to Alice. Thus, a benefit is from presenting a the five entities to Harry in that the interaction between Harry and these entities may be utilized by matching server **20** to generate other entities for matching to Harry. This serves as an example of how preferences may be identified based on user behavior.

In FIG. **4**, one embodiment is disclosed wherein matching server **20**, with pool **30**, may be configured to interact with another platform, such as social networking platform **50**, containing a set **52** of users. Users **14** are communicatively coupled to matching server **20** and social networking platform **50**. Matching server **20** may further be configured to provide users of social networking platform **50** a service by which they may search for users within set **52** or within pool **30** using the algorithms and processing of matching server **20**. Matching server **20** may even further be configured to allow users of matching server **20** to search through pool **30** and set **52**. Matching server **20** may be configured to parse the profiles of the entities in set **52**, collecting data and applying algorithms.

In another embodiment, matching server **20** may be configured to allow users of social networking platform **50** to interact with matching server **20** using social networking platform **50**. This level of integration provides the advantage of users not having to learn and sign up for a different platform.

Social networking platform **50**, in one embodiment, may be a service which stores profiles of its users. This service may be further configured to provide access to the stored profiles. In one embodiment, social networking platform **50** may also allow other services to interact with users of social networking platform **50** through social networking platform **50**.

In one embodiment, matching server **20** may be configured to collect requests from users of social networking platform **50** and perform a search through pool **30** and set **52**. Matching server **20** may further be configured to present the results of this search from within social networking platform **50**. Matching server **20** may further be configured to present entities in the search result from pool **30** as if they were entities of set **52**; in one embodiment, matching server **20** may be configured to generate profiles of entities from pool **30** into set **52**. Thus, users of social networking platform **50** may view all of the entities in the search result, regardless of their source (either from pool **30** or set **52**), within the environment of social networking platform **50**.

As an example only, consider two users: Harry, for whom matching server **20** has created a profile, and Sally, who has a profile stored in social networking platform **50**. From within social networking platform **50**, matching server **20** presents to Sally the ability to perform a search which Sally uses. The results of this search are presented to Sally within social networking platform **50**. In this example, Harry's profile is displayed to Sally as a search result along with other entities from set **52** though Harry's profile was from pool **30**. In this example, matching server **20** uses the algorithms discussed herein and searches through the profiles stored in pool **30** and set **52**. In order to display Harry's profile to Sally, matching server **20** creates a profile in set **52** using the data stored in Harry's profile in pool **30**. Sally is then able to interact with this newly created profile from within social networking platform **50** in the same manner as she is other entities in set **52**.

In another embodiment, matching server **20** may be configured to allow its users to interact with social networking platform **50** through matching server **20**. In one embodiment, matching server **20** supplements pool **30** with set **52**. In yet another embodiment, entities from set **52** appear as entities of pool **30** to the user in their list of search results. In one embodiment, matching server **20** may be configured to generate profiles within pool **30** from entities of set **52**; the system may be configured to do so through capabilities provided by social networking platform **50**, such as an application programming interface.

As an example only, consider two users: Harry, whose profile is stored in matching server **20**, and Sally, whose profile is stored in social networking platform **50**. Harry submits a search request to matching server **20**. Matching

server **20** may return result list **31** to Harry, which, in this example, contains an entity representing Sally's profile. Matching server **20** may accomplish this by creating profiles in pool **30** that correspond to the profiles found in set **52**. Once these profiles have been imported into pool **30**, matching server **20** may then search through pool **30**. While doing so, matching server **20** applies the algorithms and scores discussed herein. Thus, in this example, matching server **20** has been configured to both search and apply scoring algorithms to entities in pool **30** and set **52**. Further, in one example, Harry is not able to distinguish that Sally's profile was originally stored in social networking platform **50**. Rather, matching server **20** presents Sally's profile in the same manner as other profiles stored in pool **30**. Thus, in this example, Harry may use favorite button **34**, view button **33**, and contact button **35** when interacting with Sally's profile in the same manner as described above.

One advantage present in various embodiments is that a user has a wider pool of entities to search through. Another advantage is that a user does not have to sign up with several platforms to search through the users on those platforms.

FIG. **5** is a flowchart illustrating one embodiment of how result list **31** may be generated. At step **62**, matching server **20** generates pool **30**, as described above. At step **64**, matching server **20** applies a filter to pool **30**, removing certain entities; in various embodiments, this filter is based on user's **14** own sex and the sex user **14** desires to be matched with. At step **66**, matching server **20** may be configured to apply algorithms to pool **30** that will generate a plurality of scores for each entity in pool **30**. In one embodiment, these algorithms may include analyzing the text of the profiles of the entities in pool **30** to generate a readability score, determining how attractive an entity of pool **30** is, or measuring how likely it is that user **14** will contact an entity of pool **30**. At step **68**, matching server **20** may be configured to collect all of the scores from step **66**; in one embodiment, matching server **20** may use database **26***b* to store all of these scores. At step **70**, matching server **20** may be configured to apply an ordering algorithm which will determine the order in which entities in result list **31** are presented to user **14**. In one embodiment, this ordering algorithm is based, in part, on the scoring algorithms applied at step **66**. The ordering algorithm assigns points to each entity and orders them based on these values, constructing result list **31**. An embodiment of this ordering algorithm is summarized in the following table:

Condition	Number of Points for Ordering
Readability score 1 point higher than user	+33554432
Match result entity has expressed a preference for the user	+16777216
Match result entity has been recommended by a friend of the user	+8388608
User has viewed the details of match result entity	+2097152
Match result entity has commonality with an entity user has expressed a preference for	+1048576
Both have the same ambition	+128
Both have the same beliefs	+16384
Same answer for Build	+64
Same answer for Car	+1
Both have the same diet	+4

-continued

Condition	Number of Points for Ordering
Both have the same preference for drinking alcohol	+131072
Same answer for Ethnicity	+1024
Same answer for Fear	+256
Same answer for Hair	+2
Same answer for Number of children	+524288
Same answer for morning	+32
Same answer for "must have"	+32768
Same answer for "night out"	+16
Same answer for "pets"	+65536
Same answer for politics	+8192
Same answer for relationship status	+0
Same answer for "romance"	+512
Same answer for smoking preferences	+262144
Same answer for sports interests	+8
Same answer for "system"	+4096

As an example only, consider a registered user, Harry, who desires to perform a search. Before processing the request, matching server **20** may ask Harry what sex he is and what sex does he desire to be matched with; in this example, Harry responds that he is a male seeking a female. After doing so, matching server **20** will generate pool **30** as described above. Next, matching server **20** will apply a filter to remove certain entities from pool **30**. In this example, all males will be removed from pool **30** since Harry is seeking a female. Further, all females seeking females will be removed from pool **30** since Harry is a male. In other examples, other entities that are removed from pool **30** include entities that Harry has expressed a negative preference for before, or entities that have expressed a negative preference for Harry. After pool **30** has been filtered, matching server **20** applies a variety of scoring algorithms to the entities remaining in pool **30**. These algorithms may account for various comparisons such as those based on readability, likelihood to contact, fate, and keywords described above. Matching server **20** will then tabulate these scores, storing them, in this example, in database **26***b*. Matching server **20** will then determine what order these entities are presented to Harry by applying an ordering algorithm. Here, matching server **20** assigns one ordering score to each entity by examining the results of the scoring algorithms. After doing so, matching server will present result list **31** to Harry, where the order of the entities that appear in the result list is based on the ordering algorithm. In this example, it is possible for result list **31** to change. Consider another user, Sally, who appears in Harry's result list. If Harry decides to add her into a separate list by using favorite button **34**, Sally will be removed from result list **31** (as described above). However, Sally will also become a seed entity from which entities may be added to pool **30** (as described above). Hence, matching server **20** will update the pool, apply the filters, apply the scoring algorithms, tabulate the results, apply the ordering algorithm, and update result list **31**. As another example, an entity may update their profile which can change result list **31**. For example, assume Sally's profile had an ordering algorithm score that placed her within the top 20 entities in result list **31**. Sally then changes her profile which results in keywords that match Harry's profile being added to her profile. Matching server **20** will then update her scoring algorithms. In this example, the change in Sally's profile and

resulting increase in keyword matches with Harry's profile significantly increased her score. This was then reflected in the ordering algorithm as it was also applied to the updated profile. Afterwards, Sally's profile is now placed within the top 5 entities in result list **31**.

In some embodiments, matching server **20** may be configured to receive required characteristics from user **14** regarding a match. User **14** may be allowed to specify such restrictions based upon any number of characteristics, including those described herein. For example, matching server **20** may allow user **14** to specify that entities that indicate they have children should not be displayed. In another example, user **14** may specify that only entities between the ages of 20 and 30 should be present in result list **31**. In some embodiments, matching server **20** may implement these restrictions in step **64** of FIG. **5**. In other embodiments, however, matching server **20** may refuse to apply these restrictions to certain entities based on the characteristics of the entities. Any number of characteristics, including those described herein, may form the basis upon which matching server **20** decides not to apply the restrictions submitted by user **14**. As an example only, matching server **20** may ignore the restrictions if the entity has a high enough attractiveness rating. In another example, though user **14** has requested that no profiles which are located more than 50 miles away should be present in result list **31**, matching server **20** may include such profiles because those profiles have over 5 matching keywords, a high attractiveness rating, and have specified the same life goals as user **14**. Thus, in some embodiments, matching server **20** may refuse to apply restrictions submitted by user **14** based on any combination of characteristics or algorithms.

An advantage present in many embodiments is that through taking into account various factors when scoring potential matches and using only very few strict filters, a large amount of result entities may be returned to the user. A further advantage is that the ordering algorithm will put the most relevant search results first, saving the user time.

FIGS. **6-9** depict embodiments of a user interface presented to users of the matching system discussed above with respect to FIGS. **1** and **4**. According to some embodiments, users **14** interact with matching server **20** through interface **16** presented by terminal **10**. In addition to the embodiments of interface **16** described above in relation to FIG. **1**A, interface **16** may also comprise a touch screen interface operable to detect and receive touch input such as a tap or a swiping gesture.

In some embodiments, matching server **20** may import profiles from other social networking systems. This level of integration provides the advantage of users only having to update their profile information in one place. For example, when user **14** updates his profile within social networking platform **50**, matching server **20** is also able to access the updated profile information.

In some embodiments, matching server **20** may further be configured, as part of the user registration process, to link to a user's existing profile within social networking platform **50**. Matching server **20** may be configured to parse the profiles of the users in set **52**, e.g., collecting data and applying algorithms. For example, matching server **20** may use explicit signals from social networking platform **50** such as common friends, common interests, common network, location, gender, sexuality, or age to evaluate potential matches between users **14**. Matching server **20** may also use implicit signals such as for whom a user **14** expresses approval and disapproval. Implicit signals may also include facial recognition algorithms to detect ethnicity, hair color, eye color, etc., of profiles that user **14** has expressed interest in.

In particular embodiments, matching server **20** may have users **14** to link their user profiles to an existing profile within social networking platform **50**. Matching server **20** may be configured to generate and add profiles to user profile pool **30** from entities of set **52**; the system may be configured to do so through capabilities provided by social networking platform **50**, such as an application programming interface. One advantage of linking is that matching server **20** can use the authentication features provided by social networking platform **50**. For example, creating a user profile on matching server **20** containing false information becomes harder when the information must come from another verifiable and peer monitored source such as social networking platform **50**.

In some embodiments, matching server **20** may allow a user **14** to propose a match between two of his connections within social networking platform **50**. For example, Harry may be friends with both Bob and Sally within social networking platform **50**. Harry believes Bob and Sally are a good match and therefore instructs matching server **20** to create a match between the two users in user profile pool **30**. Once matched, matching server **20** allows Harry and Sally to communicate with each other.

In some embodiments, matching server **20** may be configured to apply a relevance algorithm which determines the content and order in which matching server **20** displays potential matches to user **14**. A relevance algorithm may be based on both explicit and implicit signals from user **14**. Explicit signals include information entered by user **14** as part of its user profile, such as height, weight, age, location, income, and ethnicity. Explicit signals may also include information about the characteristics user **14** is seeking in a match, such as gender, hair color, eye color, or occupation. Explicit signals may also be entered by user **14** as part of a search request. For example, user **14** may request matching server **20** limit the pool of potential matches to those users within a fixed geographic region. Matching server **20** is operable to compare geographic positions associated with the plurality of user profiles in user profile pool **30** with a geographic position associated with user **14**. Explicit signals may be imported from a social networking platform **50**, such as the number of shared entities in a social graph of user **14**. Implicit signals may be based on the behavior of user **14** either within system **100** or other social networking platforms **50**. For example, if user **14** has expressed disapproval of a user profile in the past, matching server **20** may no longer present the disapproved of user profile to user **14** in future searches. In various embodiments, matching server **20** may be configured to evaluate the attractiveness of a user in user profile pool **30** through collected feedback from other users. For example, matching server **20** may rank a user profile that receives more likes as more relevant than a user profile that receives fewer likes. In particular embodiments, matching server **20** may assign a higher relevance to a user profile if the other user has previously expressed a preference for user **14**. As an example, user Harry may have previously expressed a preference for user Sally. If Sally requests a set of user profiles from matching server **20**, and Harry's user profile is included in the set, matching server **20** may assign Harry's user profile a higher relevance based on his expression of preference for Sally. This can result in Harry's profile being presented to Sally sooner than otherwise would have occurred. This may be advantageous in that it can increase the chances of a match without compromising

a user's feelings of privacy when expressing preferences for potential matches. In some embodiments, matching server **20** may be configured to use the fate characteristics as a metric in the relevance algorithm.

In some embodiments, terminal **10** is operable to determine its own geographic location by a global positioning satellite navigational system. Terminal **10** may also determine its own geographic location using cellphone-based triangulation techniques, Wi-Fi based positioning system, Global Positioning Satellite (GPS) system, or network addresses assigned by a service provider.

FIG. **6** shows one embodiment of system **100** displaying to a user the profile information of a second user. Matching server **20** may be configured to search through its plurality of profiles and present suggested matches to user **14**. In FIG. **6**, one embodiment of this presentation is depicted as occurring through the display of terminal **10**. In this embodiment, a plurality of user profiles is presented to user **14**. Using terminal **10**, user **14** may request that matching server **20** present a subset of users from user profile pool **30** based on specified search parameters. The display may show an image of a suggested user and one or more aspects of the suggested user's profile information. In some embodiments, the combination of image and one or more aspects of profile information is displayed as "card" **88** representing the suggested user. A set of suggested users may be displayed as stack of cards **88**. User **14** may view information regarding one suggested user at a time or more than one of the suggested users at a time. User **14** may be presented with a summary of information regarding a suggested user. The summary may include one or more of: a picture, an icon, name, location information, gender, physical attributes, hobbies, or other profile information.

In some embodiments, terminal **10** may also display "information" button **84** which allows user **14** to request matching server **20** to retrieve and display more information about the presented user from user profile pool **30**. In addition, user **14** may express approval or disapproval for a presented user. Expressing approval or disapproval can be accomplished through various methods. For example, terminal **10** may display "like" button **86** (represented by a green heart icon) and "dislike" button **82** (represented by a red "X" icon). Pressing like button **86** indicates to matching server **20** that user **14** approves of and is interested in communication with the presented user. Pressing dislike button **82** indicates that user **14** disapproves of and does not want to communicate with the presented user. The approval preference of user **14** is anonymous in that matching server **20** does not inform users **14** whether other users have expressed approval or disapproval for them.

As an example, consider two registered users, Harry and Sally, both of whom have profiles stored in matching server **20**. Harry is at a restaurant and requests matching server **20** to present him users within a one-mile radius of his location. Matching server **20** compares a geographic position associated with Sally with a geographic position associated with Harry. If Sally is currently within the one-mile radius of Harry and matching server **20** determines her profile information matches Harry's preferences, matching server **20** will present Harry one or more aspects of Sally's profile information. If other users also meet the search criteria, matching server **20** will present one or more aspects of those users' profile information as well. Harry may request more information about Sally by pressing information button **84**. Harry may also indicate his preference to communicate directly with Sally by selecting like button **86**. In another example, Harry may expand his search to a twenty-five mile radius to meet people in his town, not just his immediate vicinity.

FIGS. **7** and **8** are diagrams of embodiments of the display from FIG. **6** showing the effect of a left swipe gesture (FIG. **7**) and the effect of a right swipe gesture (FIG. **8**). In one embodiment, users **14** may navigate through the set of presented users by swiping through stack of cards **88**. Users **14** may also express approval of a presented user by performing a right swipe gesture or express disapproval by performing a left swipe gesture. In some embodiments, user **14** performs a swiping gesture by moving a finger or other suitable object across a screen of terminal **10**. Other suitable gestures or manners of interacting with terminal **10** may be used (e.g., tapping on portions of a screen of terminal **10**).

In some embodiments, matching server **20** creates a match between two users **14** after both users **14** have expressed a preference for each other's profiles using like button **86** or the swiping gesture associated with like button **86**. When matching server **20** creates a match, it may also provide the matched users with the ability to contact each other through a contact button. In some embodiments, when a match is created, matching server **20** may immediately (or soon thereafter) present an option to users **14** that have been matched to engage in a communication session (e.g., a chat, an SMS message, an e-mail, a telephone call, a voice communication session, a video communication session). This may be done in response to a first user **14** expressing a preference for a second user **14** that has already expressed a preference for the first user **14**.

FIG. **9** shows one embodiment of matching system **100** displaying a match of a first user and a second user, in accordance with a particular embodiment. Matching server **20** may provide first user **14** and second user **14** with each other's contact information such as a telephone number or an e-mail address. Matching server **20** may also provide both first and second users **14** with a way to directly contact the other, such as sending a message or providing voice or video communication between the first and second user. In some embodiments, direct communication may be initiated by pressing "Send a Message" button **92**. Alternatively, a user may choose to continue browsing the set of presented users by pressing "Keep Playing" button **94**.

For example, user Harry may indicate a preference to communicate directly with user Sally by selecting like button **86**. At this point, Sally is not aware that Harry expressed a preference for her. If Sally also requests matching server **20** present her with a set of possible matches, Harry may appear in her set. Sally may select like button **86** (or perform an associated swiping gesture) when viewing Harry's profile. Matching server **20** may then notify both Harry and Sally that a match occurred. At this point, both Harry and Sally are made aware that they each expressed approval of each other's profile. Matching server **20** then enables Harry and Sally to directly communicate with each other (e.g., through a private chat interface).

In some embodiments, one advantage of a system disclosing preferences of profiles to users when mutual approval has occurred is that a user can feel more secure in their privacy knowing that their preferences will be disclosed to those that have expressed a preference for that user. As an example, a user can avoid embarrassment if their expression of preference for a profile was not reciprocated. This may lead to users more actively expressing their preferences. Such increased activity can be used by the matching system to generate more potential matches or better rankings of potential matches. In some embodiments,

matching server **20** may be configured to allow direct communication between users when there has been a mutual expression of preference. This may be advantageous because users can avoid browsing, deleting, or responding to unwanted messages.

FIG. **10** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a mutual expression of approval, in accordance with a particular embodiment.

At step **1002**, in some embodiments, matching server **20** generates a set of user profiles in response to a request for matching from a first user **14**. At step **1004**, matching server **20** presents the set of user profiles to first user **14**. Matching server **20** determines the contents and ordering of the set of users profiles by using, e.g., the relevance algorithms described above in the discussion of FIG. **4**. For example, matching server **20** may only include user profiles whose contents indicate location within a specified geographical radius and order the presentation of those user profiles based on the number of mutual friends in common with first user **14**.

At step **1006**, in some embodiments, matching server **20** receives an indication of the preference of first user **14** regarding a presented user profile. Matching server **20** determines if first user **14** expresses approval or disapproval of the presented user profile at step **1008**. If first user **14** disapproves of the presented user profile then a match is not made and, at step **1016**, matching server **20** will not allow communication between the two users. If first user **14** expresses approval for the presented user profile at step **1008**, then matching server **20** will check if second user **14** represented by the presented user profile has already expressed a preference for first user **14** at step **1010**. If matching server **20** detects a mutual expression of approval then a match is made between first and second users **14**. Then, at step **1012**, matching server **20** allows private communications between first and second users **14**. If a mutual expression of approval is not detected at step **1010**, then matching server **20** stores the preference of first user **14** regarding the presented user profile for future comparison and continues to step **1016** where private communications are not yet allowed.

FIG. **11** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a matching proposal suggested by a user, in accordance with a particular embodiment. At step **1102**, matching server **20** receives interactions from first user **14**. Interactions from first user **14** may include identification of user profiles for two other users **14**. For example, Harry is connected to both Bob and Sally within social networking platform **50**. Harry believes Bob and Sally are a good match for each other and generates a matching proposal requesting matching server **20** to create a match between Bob and Sally.

At step **1104**, in some embodiments, matching server **20** validates the suggested matching proposal between second and third users **14**. For example, matching server **20** verifies that Bob's profile indicates that he wants to be matched with a woman, and Sally's profile indicates that she wants to be matched with a man. Matching server **20** may also verify that Sally has not previously expressed disapproval for Bob. If matching server **20** determines the suggested matching proposal is valid, matching server **20** creates the match and allows communication between the users **14** suggested to be matched at step **1106**. If matching server **20** determines the suggested matching proposal is not valid, matching server **20** does not create a match and does not allow communication between second and third users **14** at step **1108**. In some embodiments, step **1104** may not be performed. For example, if a matching proposal is suggested, then matching server **20** may perform step **1106** with respect to the users suggested to be matched.

FIGS. **12**A-D depict embodiments of a user interface. In some embodiments, the interface allows user **14** of terminal **10** to enable communication between other users **14** by suggesting a matching proposal to matching server **20**.

FIG. **12**A illustrates one embodiment of an interface for proposing a match between two users. The interface is divided into three sections: connection list area **1202**, search area **1204**, and suggestion area **1206**. Connection list area **1202** displays a set of connections user **14** has with other users of, e.g., system **100** of FIG. **1**. Connections may be based on prior matches created by matching server **20**. Connections may also be imported from another social networking platform **50**. Search area **1204** enables user **14** to search for particular connections within system **100**. In some embodiments, the search may be limited to just the connections displayed in connection list area **1202**. Suggestion area **1206** displays the connections that user **14** may use to form a suggested match.

FIG. **12**B illustrates suggestion area **1206** displaying a first selected user (i.e., "Jonathan Smith") of a proposed match between two users. User **14** identifies the first selected user through a set of interactions with connection list area **1202**, search area **1204**, and suggestion area **1206**. For example, user **14** may locate a connection in connection list area **1202** by typing a user handle in search area **1204**. User **14** may then add the connection to suggestion area **1206**. In some embodiments, user **14** may drag the connection from connection list area **1202** to suggestion area **1206**.

FIG. **12**C illustrates suggestion area **1206** displaying a proposed match between two suggested users (i.e., "Jonathan Smith" and "Mary Major"). For example, user **14** may locate a second connection in connect list area **1202** that user **14** believes is a match for the first connection. User **14** may add the second connection to suggestion area **1206**. When both connections are added to suggestion area **1206**, matching server **20** may create a match between the two users and allow communication between them.

FIG. **12**D illustrates an example communication interface between users of the matching system. User **14** is presented with chat box **1208** for each of the matches that exist for user **14**. Users **14** may communicate with each other through chat box **1208**. In some embodiments, users **14** may communicate through SMS messages, e-mail, telephone calls, online voice communication sessions, and/or video communication sessions.

Modifications, additions, or omissions may be made to the methods described herein (such as those described above with respect to FIGS. **5**, **10** and **11**) without departing from the scope of the disclosure. For example, the steps may be combined, modified, or deleted where appropriate, and additional steps may be added. Additionally, the steps may be performed in any suitable order without departing from the scope of the present disclosure.

Although several embodiments have been illustrated and described in detail, it will be recognized that substitutions and alterations are possible without departing from the spirit and scope of the appended claims.

What is claimed is:

1. A method of navigating a user interface, comprising:

presenting, on a graphical user interface, a graphical representation of a first item of information of a plurality of items of information, the first item of information comprising a graphical representation of a first

online dating profile associated with a first user, wherein presenting the graphical representation of the first item of information of the plurality of items of information comprises presenting the first item of information as a first card of a stack of cards;

detecting a gesture associated with the graphical representation of the first item of information, the gesture corresponding to a positive preference indication associated with the first item of information, the positive preference indication associated with the first item of information comprising an expression of approval for the first user associated with the first online dating profile, wherein detecting the gesture associated with the graphical representation of the first item of information comprises detecting a right swiping direction associated with the gesture;

storing the positive preference indication associated with the first item of information in response to detecting the gesture;

automatically presenting, on the graphical user interface, a graphical representation of a second item of information of the plurality of items of information in response to detecting the gesture, the second item of information comprising a graphical representation of a second online dating profile associated with a second user; and

automatically removing the graphical representation of the first item of information from the graphical user interface in response to detecting the gesture.

2. The method of claim **1**, wherein presenting the graphical representation of the first item of information of the plurality of items of information comprises presenting user interface controls such that all user interface controls configured to cause another item of information of the plurality of items of information to be displayed are associated with performing an action on the first item of information.

3. A system, comprising:

an interface operable to:

present a graphical representation of a first item of information of a plurality of items of information, the first item of information comprising a graphical representation of a first online dating profile associated with a first user, wherein the interface is further operable to present the graphical representation of the first item of information of the plurality of items of information as a first card of a stack of cards;

a processor coupled to the interface and operable to:

detect a gesture associated with the graphical representation of the first item of information, the gesture corresponding to a positive preference indication associated with the first item of information, the positive preference indication associated with the first item of information comprising an expression of approval for the first user associated with the first online dating profile, wherein the processor is further operable to detect a right swiping direction associated with the gesture;

store the positive preference indication associated with the first item of information in response to detecting the gesture; and

the interface further operable to:

automatically present a graphical representation of a second item of information of the plurality of items of information in response to the processor detecting the gesture, the second item of information comprising a graphical representation of a second online dating profile associated with a second user; and

automatically remove the graphical representation of the first item of information in response to detecting the gesture.

4. The system of claim **3**, wherein the interface is further operable to present user interface controls such that ail user interface controls configured to cause another item of information of the plurality of items of information to be displayed are associated with performing an action on the first item of information.

5. At least one non-transitory computer-readable medium comprising a plurality of instructions that, when executed by at least one processor, are configured to:

present, on a graphical user interface, a graphical representation of a first item of information of a plurality of items of information, the first item of information comprising a graphical representation of a first online dating profile associated with a first user, wherein the plurality of instructions are configured to present the graphical representation of the first item of information of the plurality of items of information as a first card of a stack of cards;

detect a gesture associated with the graphical representation of the first item of information, the gesture corresponding to a positive preference indication associated with the first item of information, the positive preference indication associated with the first item of information comprising an expression of approval for the first user associated with the first online dating profile, wherein the plurality of instructions are further configured to detect a right swiping direction associated with the gesture;

store the positive preference indication associated with the first item of information in response to detecting the gesture;

automatically present, on the graphical user interface, a graphical representation of a second item of information of the plurality of items of information in response to detecting the gesture, the second item of information comprising a graphical representation of a second online dating profile associated with a second user; and

automatically remove the graphical representation of the first item of information from the graphical user interface in response to detecting the gesture.

6. The at least one non-transitory computer-readable medium of claim **5**, wherein the plurality of instructions are further configured to present user interface controls such that all user interface controls configured to cause another item of information of the plurality of items of information to be displayed are associated with performing an action on the first item of information.

* * * * *

Exhibit C

US010203854B2

(12) **United States Patent**
Rad et al.

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(45) **Date of Patent: *Feb. 12, 2019**

(54) **MATCHING PROCESS SYSTEM AND METHOD**

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(73) Assignee: **Match Group, LLC**, Dallas, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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G06F 17/30 (2006.01)
G06F 3/0484 (2013.01)
(Continued)

(52) **U.S. Cl.**
CPC ***G06F 3/04842*** (2013.01); ***G06F 3/0482*** (2013.01); ***G06F 3/0488*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC G06F 17/30867; G06F 17/3053; G06F 17/30386
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,480,885 B1 11/2002 Olivier
7,917,448 B2 3/2011 Smola et al.
(Continued)

OTHER PUBLICATIONS

PCT Notification of Transmittal of the International Search Report and the Written Opinion of the International Searching Authority, or the Declaration with attached PCT International Search Report and Written Opinion of the International Searching Authority in International Application No. PCT/US08/87706, dated Feb. 10, 2009, 8 pages.

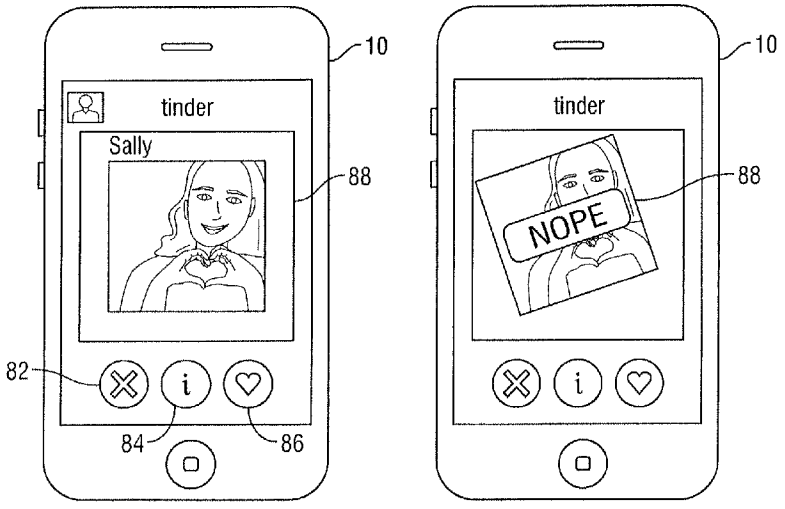
(Continued)

Primary Examiner — Yuk Ting Choi
(74) *Attorney, Agent, or Firm* — Baker Botts L.L.P.

(57) **ABSTRACT**

A method for profile matching includes receiving a plurality of user profiles, each user profile comprising traits of a respective user. The method includes receiving a preference indication for a first user profile of the plurality of user profiles. The method also includes determining a potential match user profile of the plurality of user profiles based on the preference indication for the first user profile. The method also includes presenting the potential match user profile to a second user.

12 Claims, 11 Drawing Sheets



Related U.S. Application Data

No. 14/059,192, filed on Oct. 21, 2013, now Pat. No. 9,733,811, which is a continuation-in-part of application No. 12/339,301, filed on Dec. 19, 2008, now Pat. No. 8,566,327.

(60) Provisional application No. 61/793,866, filed on Mar. 15, 2013, provisional application No. 61/015,099, filed on Dec. 19, 2007.

(51) **Int. Cl.**

G06Q 10/10	(2012.01)
G06Q 30/02	(2012.01)
G06Q 50/10	(2012.01)
G06Q 50/00	(2012.01)
G06F 3/0482	(2013.01)
G06F 3/0488	(2013.01)

(52) **U.S. Cl.**

CPC .. ***G06F 17/30554*** (2013.01); ***G06F 17/30657*** (2013.01); ***G06Q 10/10*** (2013.01); ***G06Q 30/02*** (2013.01); ***G06Q 50/01*** (2013.01); ***G06Q 50/10*** (2013.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

8,060,463	B1	11/2011	Spiegel	
8,180,804	B1	5/2012	Narayanan et al.	
8,566,327	B2	10/2013	Carrico et al.	
9,547,369	B1	1/2017	Wernick et al.	
9,720,570	B2	8/2017	Wernick et al.	
2005/0021750	A1	1/2005	Abrams	
2005/0027707	A1	2/2005	Syed	
2006/0059147	A1	3/2006	Weiss et al.	
2006/0085419	A1	4/2006	Rosen	
2006/0106780	A1	5/2006	Dagan	
2007/0073687	A1	3/2007	Terrill et al.	
2007/0073803	A1	3/2007	Terrill et al.	
2008/0051033	A1*	2/2008	Hymes	G06F 17/30247 455/47
2008/0196094	A1*	8/2008	Benschop	G06Q 20/10 726/5
2008/0294624	A1	11/2008	Kanigsberg et al.	
2008/0301118	A1	12/2008	Chien et al.	
2009/0106040	A1	4/2009	Jones	
2010/0125632	A1	5/2010	Leonard	
2011/0087974	A1	4/2011	Kulas	
2011/0196927	A1	8/2011	Vance	
2012/0088524	A1*	4/2012	Moldavsky	G06Q 30/02 455/456.3
2014/0040368	A1	2/2014	Janssens	
2014/0074824	A1	3/2014	Rad	

OTHER PUBLICATIONS

USPTO, Non-final Office Action dated Aug. 25, 2011 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 14 pages.

Response to Office Action Pursuant to 37 C.F.R. § 1.111 filed Nov. 23, 2011 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 12 pages.

USPTO, Final Office Action dated Jan. 6, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 15 pages.

Request for Continued Examination Transmittal and Amendment Filed with Request for Continued Examination filed May 7, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 17 pages.

USPTO, Non-final Office Action dated Oct. 2, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 10 pages.

Response to Office Action Pursuant to 37 C.F.R. § 1.111 filed Dec. 31, 2012 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 13 pages.

USPTO, Final Office Action dated Mar. 7, 2013 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 12 pages.

Response to Office Action Pursuant to 37 C.F.R. § 1.116 and Certification and Request for Consideration Under the After Final Consideration Pilot Program 2.0 filed Jun. 6, 2013 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 14 pages.

USPTO, Notice of Allowance and Fees Due dated Jun. 19, 2013 for U.S. Appl. No. 12/339,301, filed Dec. 19, 2008 in the name of Todd M. Carrico, 12 pages.

* cited by examiner

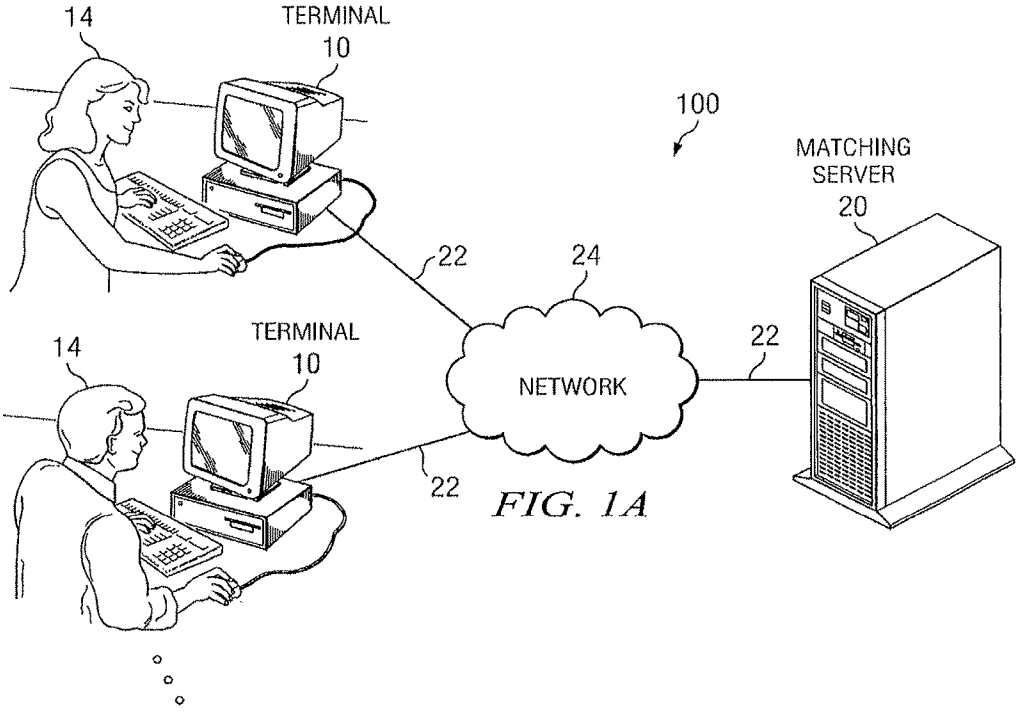


FIG. 1A

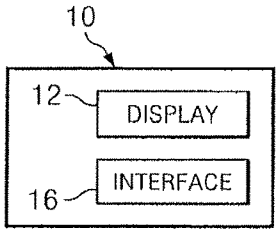


FIG. 1B

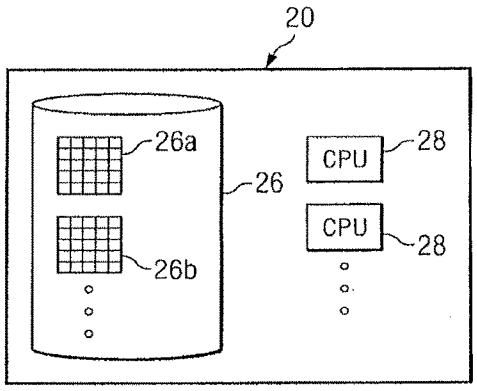


FIG. 1C

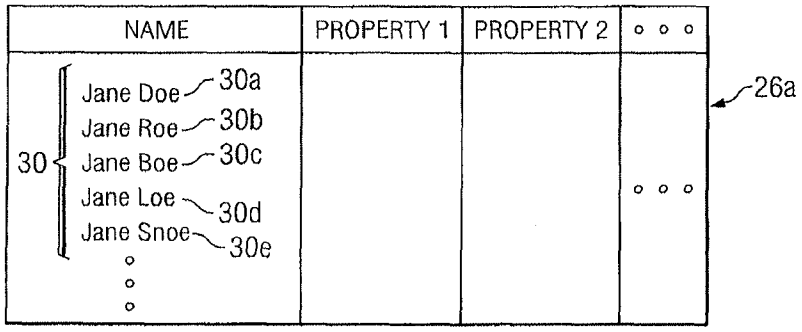


FIG. 1D

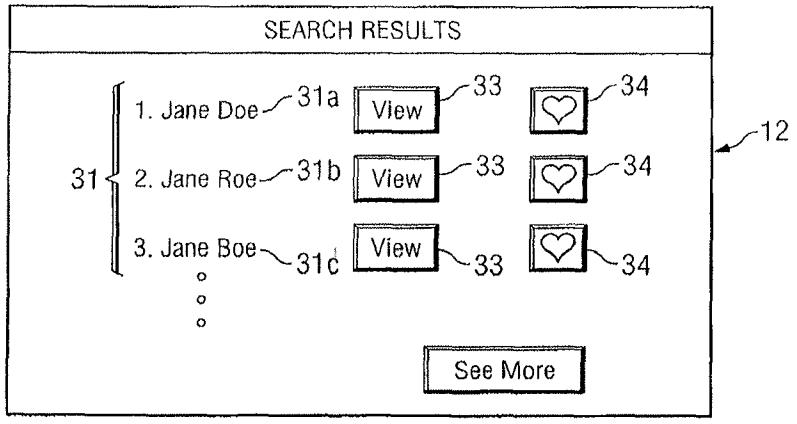


FIG. 1E

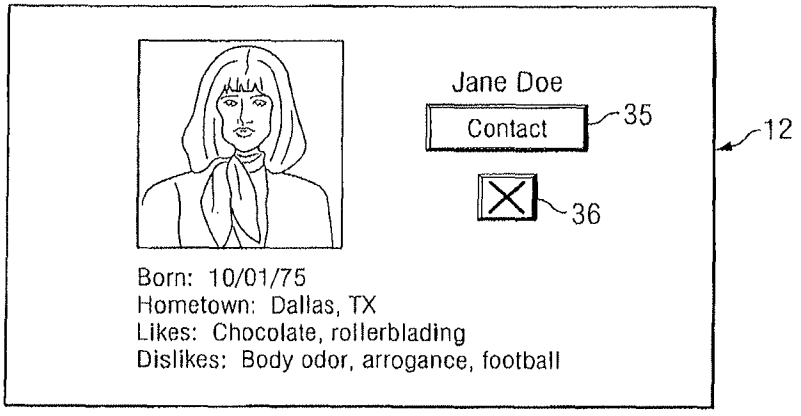


FIG. 1F

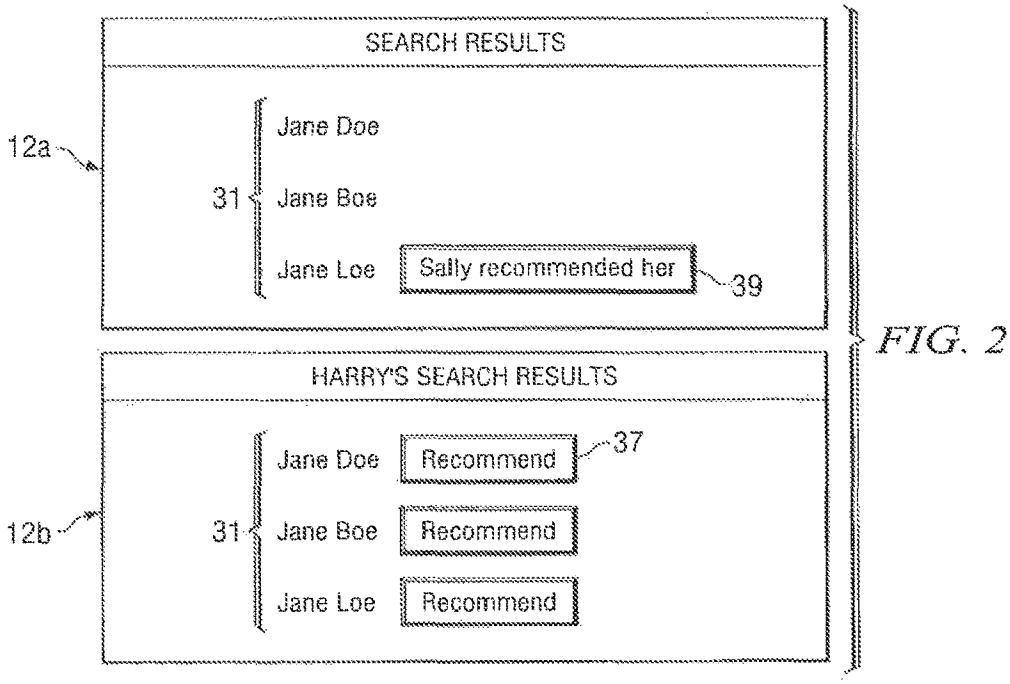

SEARCH RESULTS
12a
31
Jane Doe
Jane Boe
Jane Loe
Sally recommended her
39
HARRY'S SEARCH RESULTS
12b
31
Jane Doe
Recommend
37
Jane Boe
Recommend
Jane Loe
Recommend

FIG. 2

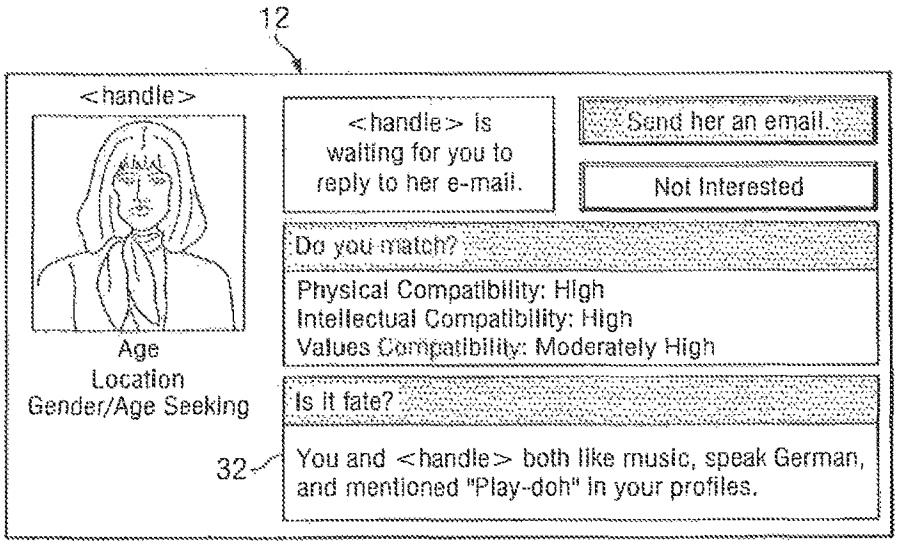

12
<handle>
<handle> is waiting for you to reply to her e-mail.
Send her an email.
Not Interested
Do you match?
Physical Compatibility: High
Intellectual Compatibility: High
Values Compatibility: Moderately High
Age
Location
Gender/Age Seeking
Is it fate?
32
You and <handle> both like music, speak German, and mentioned "Play-doh" in your profiles.

FIG. 3

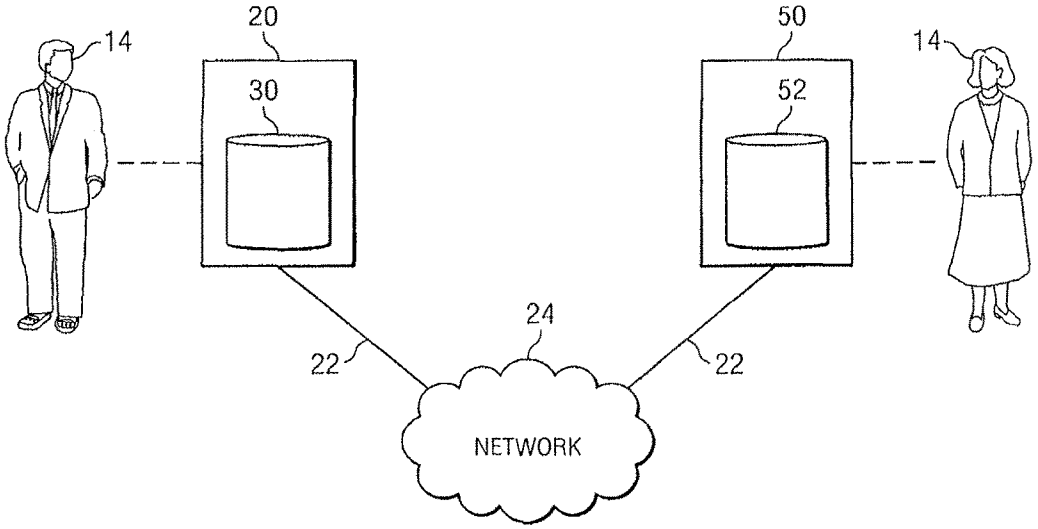

14
20
30
50
52
14
24
22
22
NETWORK

FIG. 4

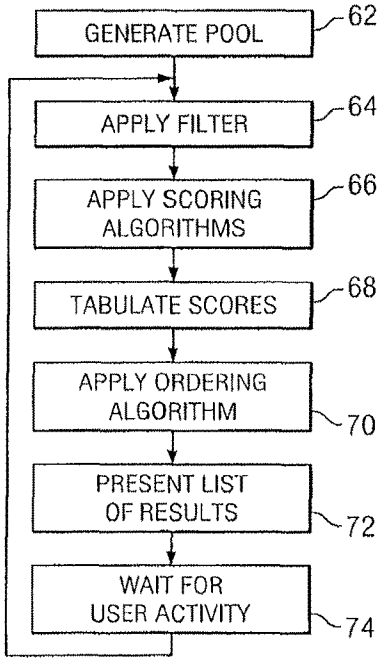

GENERATE POOL
62
APPLY FILTER
64
APPLY SCORING ALGORITHMS
66
TABULATE SCORES
68
APPLY ORDERING ALGORITHM
70
PRESENT LIST OF RESULTS
72
WAIT FOR USER ACTIVITY
74

FIG. 5

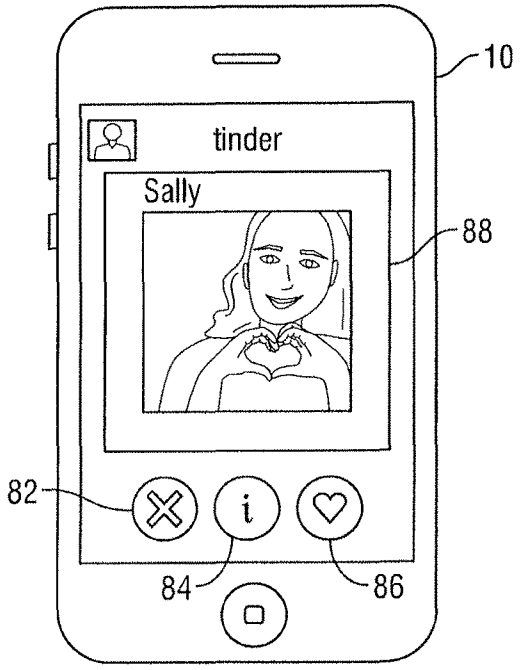


FIG. 6

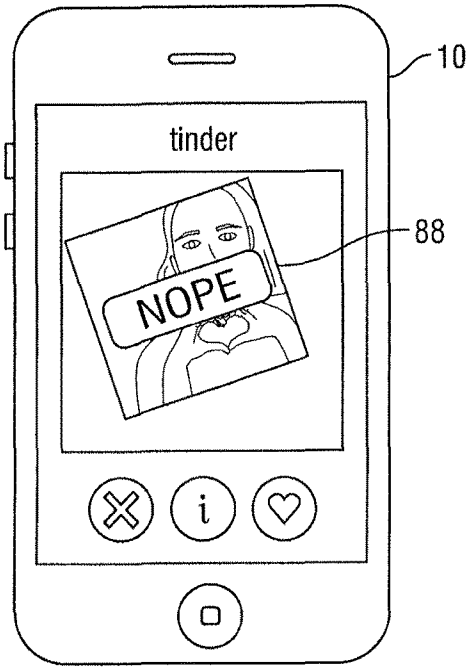


FIG. 7

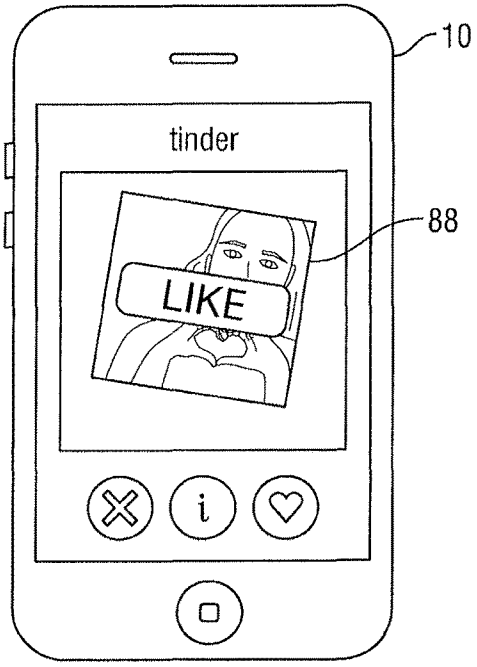


FIG. 8

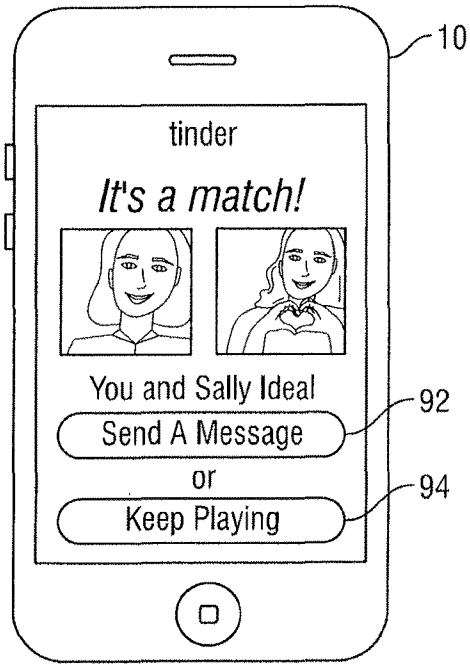


FIG. 9

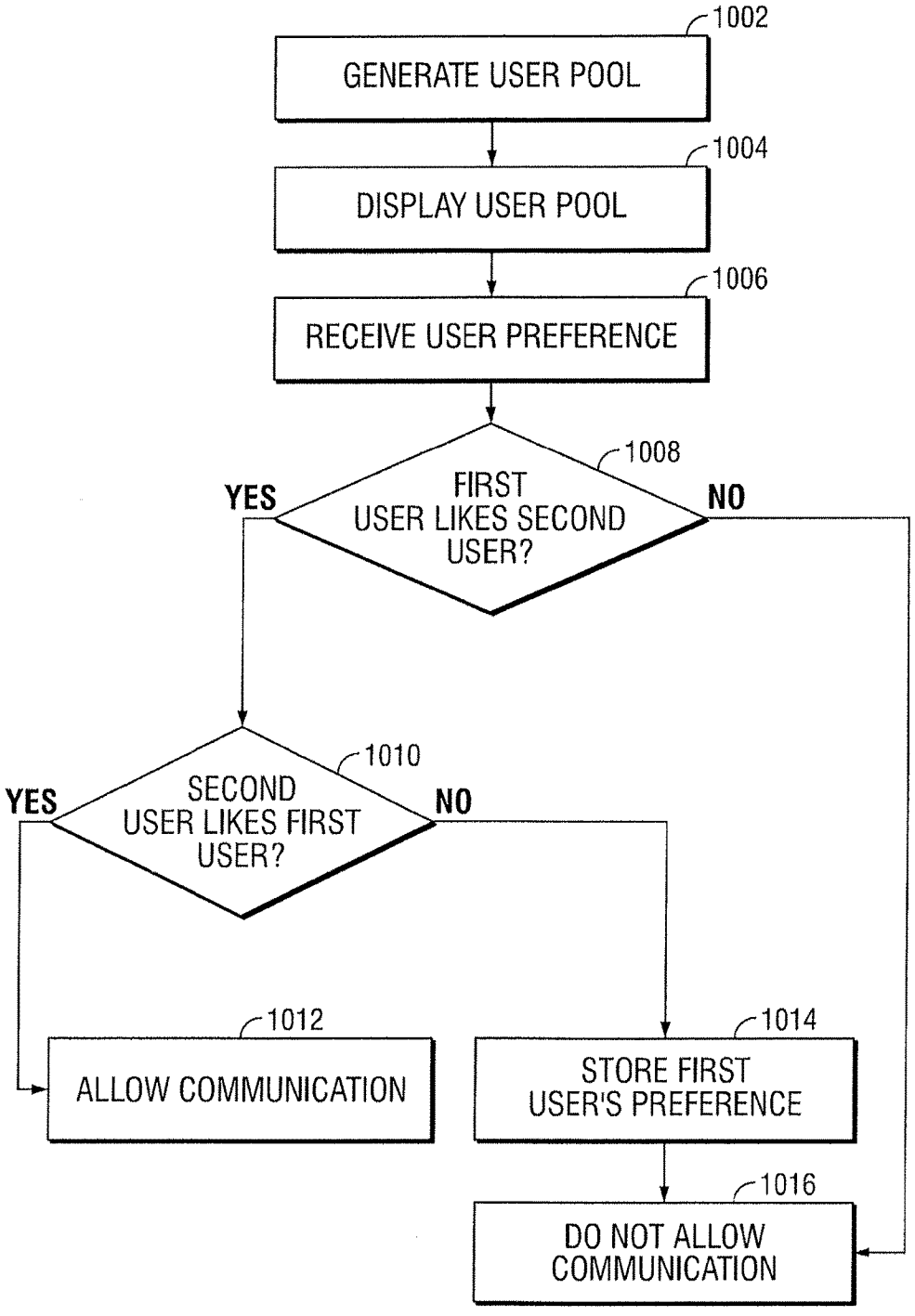

1002
GENERATE USER POOL
1004
DISPLAY USER POOL
1006
RECEIVE USER PREFERENCE
1008
FIRST USER LIKES SECOND USER?
YES
NO
1010
SECOND USER LIKES FIRST USER?
YES
NO
1012
ALLOW COMMUNICATION
1014
STORE FIRST USER'S PREFERENCE
1016
DO NOT ALLOW COMMUNICATION

FIG. 10

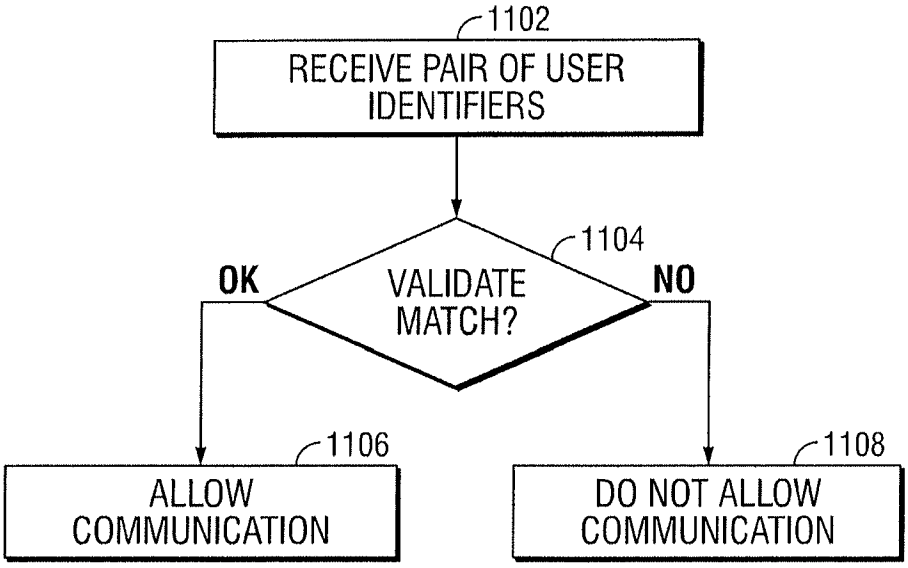

1102
RECEIVE PAIR OF USER IDENTIFIERS
1104
VALIDATE MATCH?
OK
NO
1106
ALLOW COMMUNICATION
1108
DO NOT ALLOW COMMUNICATION

FIG. 11

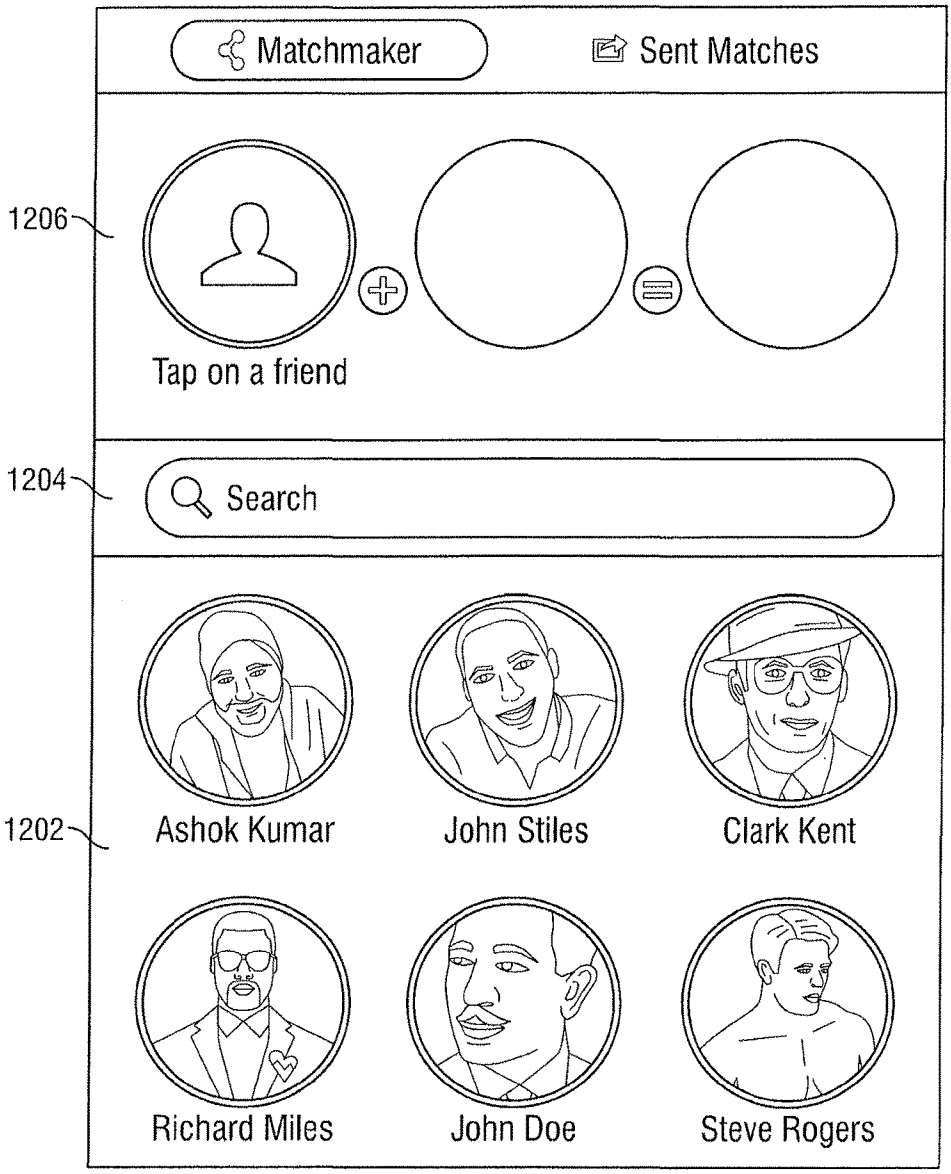

Matchmaker
Sent Matches
1206
Tap on a friend
1204
Search
1202
Ashok Kumar
John Stiles
Clark Kent
Richard Miles
John Doe
Steve Rogers

FIG. 12A

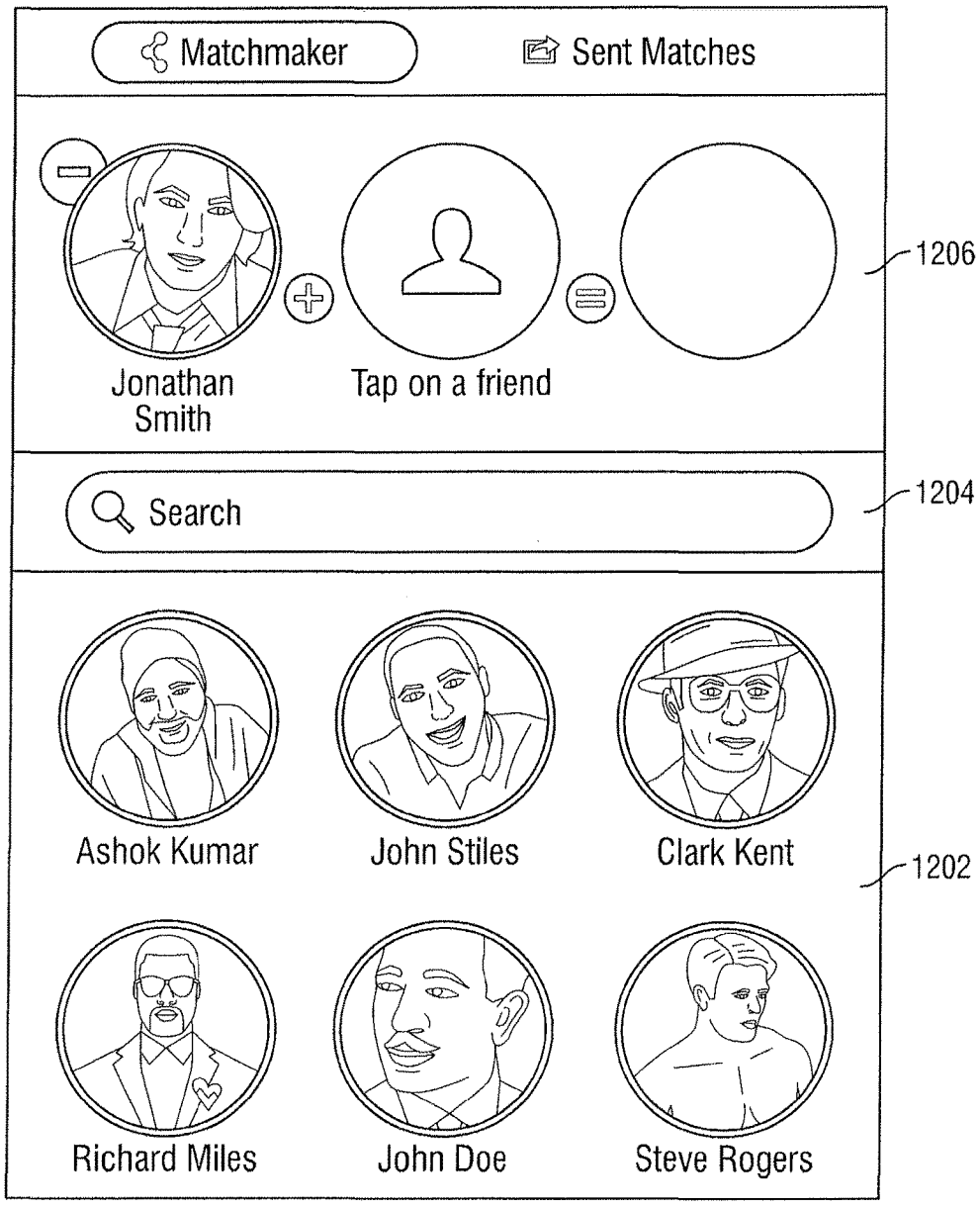

Matchmaker
Sent Matches
Jonathan Smith
Tap on a friend
1206
Search
1204
Ashok Kumar
John Stiles
Clark Kent
1202
Richard Miles
John Doe
Steve Rogers

FIG. 12B

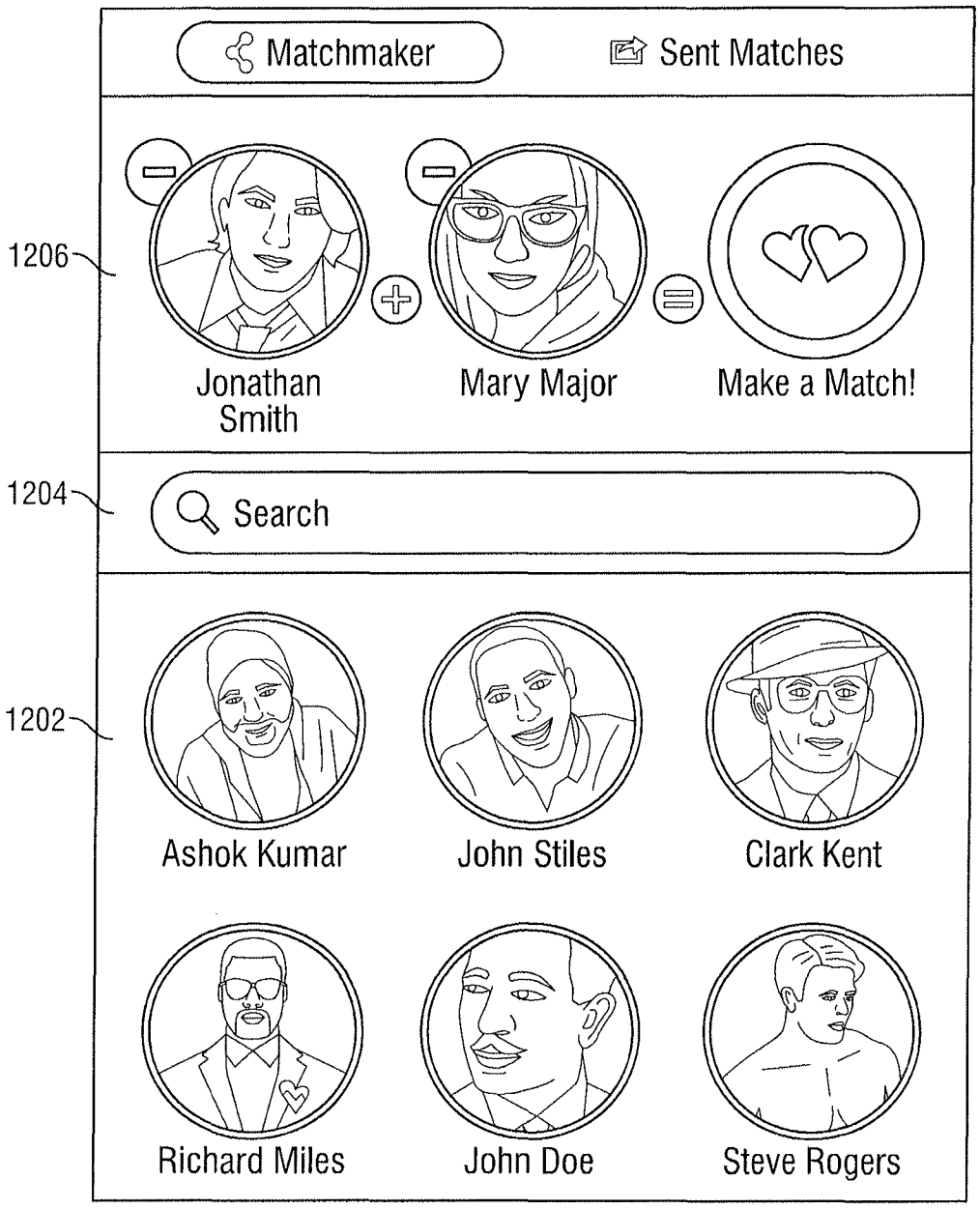

Matchmaker
Sent Matches
1206
Jonathan Smith
Mary Major
Make a Match!
1204
Search
1202
Ashok Kumar
John Stiles
Clark Kent
Richard Miles
John Doe
Steve Rogers

FIG. 12C

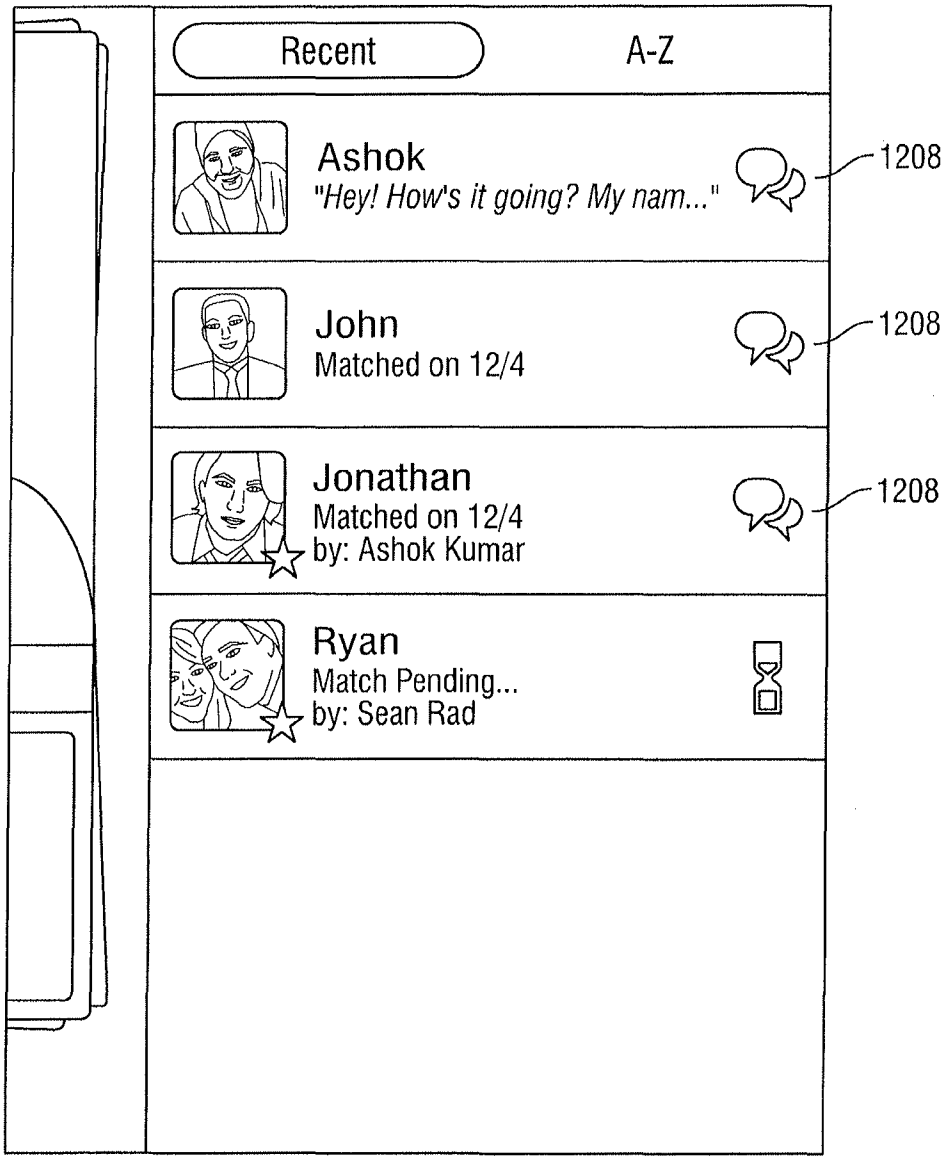

Recent
A-Z
Ashok
"Hey! How's it going? My nam..."
1208
John
Matched on 12/4
1208
Jonathan
Matched on 12/4
by: Ashok Kumar
1208
Ryan
Match Pending...
by: Sean Rad

FIG. 12D

MATCHING PROCESS SYSTEM AND METHOD

RELATED APPLICATION

This application is a continuation of U.S. application Ser. No. 15/676,773 filed Aug. 14, 2017 and entitled "Matching Process System And Method," which is a continuation of U.S. application Ser. No. 14/059,192 filed Oct. 21, 2013 and entitled "Matching Process System and Method;" which (a) is a continuation-in-part of U.S. application Ser. No. 12/339,301 filed Dec. 19, 2008 and entitled "Matching Process System and Method," now U.S. Pat. No. 8,566,327, which claims benefit under 35 U.S.C. § 119(e) to U.S. Provisional Application Ser. No. 61/015,099, entitled "Matching Process System And Method," filed Dec. 19, 2007; and (b) claims benefit under 35 U.S.C. 119(e) to U.S. Provisional Application Ser. No. 61/793,866 filed Mar. 15, 2013 and entitled "Social Matching System and Method."

TECHNICAL FIELD

This invention relates generally to computer matching systems and more particularly to a matching process system and method.

BACKGROUND

Networking architectures have grown increasingly complex in communications environments. In recent years, a series of protocols and configurations have been developed in order to accommodate a diverse group of end users having various networking needs. Many of these architectures have gained significant notoriety because they can offer the benefits of automation, convenience, management, and enhanced consumer selections.

Certain network protocols may be used in order to allow an end user to conduct an on-line search of candidates to fill a given vacancy. These protocols may relate to job searches, person finding services, real estate searches, or on-line dating. While some believe that on-line dating is simply a matter of matching supply and demand, there is statistical and empirical evidence to suggest that successful on-line dating entails far more.

For example, people having similar and/or compatible character traits and values should be matched together. However, effectively linking two participants together can prove to be a challenging endeavor. Coordinating a relationship between two like-minded individuals can be a significant chore, as there are a number of obstacles and barriers that must be overcome.

One problem that has arisen is that matching services are limited to searching for matches only within their own platform. Thus, only people who have gone through the process of signing up for the service are searched for a match. One solution to this problem is to have users register in multiple services. This is problematic because it can be expensive and time consuming for users. Further, the user must then visit all of the services to monitor the search progress: this inefficiency may cause users to give up on the search process.

Another problem is that the search results of these services contain many irrelevant entities to the searcher. This costs the user of the service time and may deter them from continuing through all of the search results.

Another problem is that large numbers of unwanted communication requests can become a nuisance to the user.

Too many nuisance requests may deter the user from further use of the system. Users with the most attractive profiles are oftentimes the ones that receive the most unwanted attention. If the users with the most attractive profiles cease to use the system, the quality of the user pool deteriorates.

SUMMARY

In one embodiment, a method for profile matching comprises receiving a plurality of user profiles, each user profile comprising traits of a respective user. It also comprises receiving a preference indication for a first user profile of the plurality of user profiles. It further comprises determining a potential match user profile of the plurality of user profiles based on the preference indication for the first user profile. The method also comprises presenting the potential match user profile to a second user.

Receiving a preference indication for a first user profile may include receiving from a third user a recommendation of the first user profile for the second user. It may also include receiving from the second user a preference indication for the first user profile. The method may further include determining a score of a third user profile of the plurality of user profiles as a potential match for the second user. It may also include altering the score of the third user profile based on the preference indication for the first user profile.

In another embodiment, a method for profile matching comprises receiving a plurality of user profiles, each user profile comprising traits of a respective user. The method further comprises receiving a request for matches from a first user, the first user associated with a first user profile. The method also comprises scoring the plurality of user profiles for potential matching with the first user based on comparisons of the plurality of user profiles with the first user profile. It also comprises identifying a second user profile of the plurality of user profiles as a potential match for the first user based on the scoring. The method further comprises identifying commonality between a third user profile of the plurality of user profiles and the second user profile. In addition, the method comprises presenting to the first user the third user profile as a potential match for the first user.

Depending on the specific features implemented, particular embodiments may exhibit some, none, or all of the following technical advantages. Various embodiments may be capable of dynamically updating match search results based on user activity. Some embodiments may be capable of enhancing match search results by reducing the impact of restrictive user preferences. In addition, some embodiments may provide the ability to evaluate the attractiveness of potential matches. Various embodiments may be capable of importing user profiles from other social-networking systems. Some embodiments may be capable of generating the pool of users based on both explicit and implicit criteria derived from other social networking systems. Other technical advantages will be readily apparent to one skilled in the art from the following figures, description and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Reference is now made to the following description taken in conjunction with the accompanying drawings, wherein like reference numbers represent like parts, and which:

FIG. **1**A is an overview of one embodiment of the matching system;

FIG. **1**B shows the contents of the terminal from FIG. **1**A;

FIG. **1**C shows the contents of the matching server from FIG. **1**A;

FIG. **1**D is a diagram of a database from FIG. **1**C showing one embodiment of how a matching server stores a pool;

FIG. **1**E is a diagram of the display from FIG. **1**B showing one embodiment of the presentation of search results to a user;

FIG. **1**F is a diagram of the display from FIG. **1**B showing one embodiment of the presentation of details of a match result entity to a user;

FIG. **2** is a diagram depicting how a user may recommend an entity to another user, in accordance with a particular embodiment;

FIG. **3** is a diagram of the display from FIG. **1**B depicting how the user may be made aware of fate characteristics the user shares with a match result entity, in accordance with a particular embodiment;

FIG. **4** is a diagram depicting how two platforms may be searched for a match, in accordance with a particular embodiment;

FIG. **5** is a flow chart indicating how a result list may be generated, in accordance with a particular embodiment;

FIG. **6** shows one embodiment of the matching system displaying to a user the profile information of a second user;

FIG. **7** is a diagram of the display from FIG. **6** showing the effect of a left swipe gesture;

FIG. **8** is a diagram of the display from FIG. **6** showing the effect of a right swipe gesture;

FIG. **9** shows the matching system displaying a match of a first user and a second user, in accordance with a particular embodiment;

FIG. **10** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a mutual expression of approval, in accordance with a particular embodiment;

FIG. **11** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a user suggested matching proposal, in accordance with a particular embodiment; and

FIGS. **12**A-D depict embodiments of a user interface.

DETAILED DESCRIPTION

Referring to FIG. **1**A, one embodiment of a matching system is shown. FIG. **1**A is a simplified block diagram of a system **100** for facilitating an on-line dating scenario in a network environment. In other embodiments, system **100** can be leveraged to identify and to evaluate suitable candidates in other areas (e.g. hiring/employment, recruiting, real estate, general person searches, etc.). Users **14** interact with a matching server **20** through terminals **10**. FIG. **1**B is a diagram showing, in one embodiment, the contents of terminal **10**. Terminal **10** comprises interface **16** (so that user **14** may be able to interact with terminal **10**) and display **12**. FIG. **1**C is a diagram showing, in one embodiment, the contents of matching server **20**. Matching server **20** comprises memory **26** and at least one CPU **28**. Memory **26** may store multiple databases, such as databases **26***a* and **26***b*. Terminal **10** and matching server **20** are communicatively coupled via network connections **22** and network **24**.

Users **14** are clients, customers, prospective customers, or entities wishing to participate in an on-line dating scenario and/or to view information associated with other participants in the system. Users **14** may also seek to access or to initiate a communication with other users that may be delivered via network **24**. Users **14** may review data (such as profiles, for example) associated with other users in order to make matching decisions or elections. Data, as used herein, refers to any type of numeric, voice, video, text, or script data, or any other suitable information in any appropriate format that may be communicated from one point to another.

In one embodiment, terminal **10** represents (and is inclusive of) a personal computer that may be used to access network **24**. Alternatively, terminal **10** may be representative of a cellular telephone, an electronic notebook, a laptop, a personal digital assistant (PDA), or any other suitable device (wireless or otherwise: some of which can perform web browsing), component, or element capable of accessing one or more elements within system **100**. Interface **16**, which may be provided in conjunction with the items listed above, may further comprise any suitable interface for a human user such as a video camera, a microphone, a keyboard, a mouse, or any other appropriate equipment according to particular configurations and arrangements. In addition, interface may be a unique element designed specifically for communications involving system **100**. Such an element may be fabricated or produced specifically for matching applications involving a user.

Display **12**, in one embodiment, is a computer monitor. Alternatively, display **12** may be a projector, speaker, or other device that allows user **14** to appreciate information that system **100** transmits.

Network **24** is a communicative platform operable to exchange data or information emanating from user **14**. Network **24** could be a plain old telephone system (POTS). Transmission of information emanating from the user may be assisted by management associated with matching server **20** or manually keyed into a telephone or other suitable electronic equipment. In other embodiments, network **24** could be any packet data network offering a communications interface or exchange between any two nodes in system **100**. Network **24** may alternatively be any local area network (LAN), metropolitan area network (MAN), wide area network (WAN), wireless local area network (WLAN), virtual private network (VPN), intranet, or any other appropriate architecture or system that facilitates communications in a network or telephonic environment, including a combination of any networks or systems described above. In various embodiments, network connections **22** may include, but are not limited to, wired and/or wireless mediums which may be provisioned with routers and firewalls.

Matching server **20** is operable to receive and to communicate information to terminal **10**. In some embodiments, matching server **20** may comprise a plurality of servers or other equipment, each performing different or the same functions in order to receive and communicate information to terminal **10**. Matching server **20** may include software and/or algorithms to achieve the operations for processing, communicating, delivering, gathering, uploading, maintaining, and/or generally managing data, as described herein. Alternatively, such operations and techniques may be achieved by any suitable hardware, component, device, application specific integrated circuit (ASIC), additional software, field programmable gate array (FPGA), server, processor, algorithm, erasable programmable ROM (EPROM), electrically erasable programmable ROM (EEPROM), or any other suitable object that is operable to facilitate such operations.

In some embodiments, user **14**, using terminal **10**, registers with matching server **20**. Registration may include user **14** submitting information to matching server **20** about user **14** as well as characteristics user **14** is seeking to be matched with. Such information may include a user handle, which

may be a combination of characters that uniquely identifies user **14** to matching server **20**. In various embodiments, matching server **20** may be configured to collect this information; for example, matching server **20** may be configured to ask user **14** to respond to a series of questions. Matching server **20** may be configured to receive the information submitted by user **14** and create a profile for user **14** based on that information, storing the profile in memory **26**.

As an example only, consider a case where user **14** is interested in participating in an on-line dating scenario. User **14** can access the Internet via terminal **10**, travel to a web site managed by matching server **20**, and begin the registration process. As part of the registration process, matching server **20** may ask user **14** a series of questions which identifies characteristics about user **14**. Thus, matching server **20** may ask about the height, weight, age, location, and ethnicity of user **14**. It may also ask about the birthplace, parents, eating habits, activities, and goals of user **14**. Matching server **20** may further use the registration process to discover what user **14** may be looking for in a match, such as age, weight, height, location, ethnicity, diet, education, etc. Further, matching server **20** may ask user **14** to indicate how important certain factors are when looking for a match. For example, matching server **20** may allow the user to indicate which characteristics in a potential match are a necessity. In another example, matching server **20** may ask, "How important is it that your match does not smoke?" Matching server **20** may also allow the user to indicate that certain characteristics are not important search criteria. For example, when asking user **14** about what height or weight user **14** is seeking in a match, matching server **20** may be configured to receive "not important" as a response. In yet another example, matching server **20** may allow user **14** to rate which factors are important on a numerical scale. For example, matching server **20** may ask user **14** the following: "On a scale of 1-10, how important is it that your match has the same education level as you?" In some embodiments, matching server **20** may specify that any number of questions or requested descriptions are necessary before registration may be concluded. As an example only, matching server **20** may require that user **14** communicate the sex of user **14** and the sex user **14** prefers to be matched with. After concluding the registration process, matching server **20** may store the responses of user **14** as a profile. This same process may be repeated by several different users **14**, causing matching server **20** to contain a plurality of profiles.

FIG. **1**D depicts an embodiment in which matching server **20** has a database **26***a* which contains a pool **30**. Each entry in database **26***a* has a pool entity **30***a* along with information concerning that entity. In one embodiment, each pool entity **30***a-e* represents a user and their profile. In some embodiments, not all registered users are in pool **30**. As discussed further below, matching server **20** may use a selection process for including stored profiles in pool **30**. As depicted in FIG. **1**D, in this embodiment, the collection of users and profiles forms pool **30** through which matching server may perform various functions such as searches for matches.

Matching server **20** may be configured to search through pool **30** and present matches to user **14**. In FIG. **1**E, one embodiment of this presentation is depicted as occurring through display **12**. In various embodiments, matches may be presented to user **14** utilizing other communication schemes, such as electronic messages (i.e., e-mail) or text messages (i.e., utilizing SMS). In the depicted embodiment, a result list **31** is presented to user **14**. A match result entity **31***a* in a result list **31** may be associated with a view button **33**. Using interface **16**, user **14** may request that matching server **20** provide more information about an entity in result list **31** by pressing the associated view button **33**. Matching server **20** may then communicate to user **14** more information about that entity by retrieving the information from memory **26**. In FIG. **1**F, one embodiment of information that matching server **20** provides for user **14** is shown. Using display **12**, user **14** views an entity from result list **31**. Matching server **20** may also provide user **14** with the ability to contact the entity through a contact button **35**. In one embodiment, when contact button **35** is utilized by user **14**, matching server **20** may provide user **14** with contact information of the entity such as a telephone number or an e-mail address; in another embodiment, matching server **20** may provide user with a way to directly contact the entity, such as sending a message or providing voice or video communication between user **14** and the entity. Even further, matching server **20** may be configured to allow user **14** to express a negative preference for the entity through dislike button **36**. In one embodiment, when, for example, dislike button **36** is utilized by user **14**, matching server **20** may remove the entity from result list **31**; in another embodiment, the entity may be removed from pool **30** of users from which matches are identified.

As an example only, consider that user **14** has submitted a search request to matching server **20**. Matching server **20** may search through pool **30**, identify results, and communicate result list **31** to user **14** which would contain other users for whom matching server **20** had created a profile and who were identified through a search and selection process. Next, user **14** may be interested in learning more about Jane Doe, entity **31***a*; thus, user **14** would click view button **33** associated with Jane Doe. Matching server **20** would receive this request and respond by displaying Jane Doe's profile (stored in memory **26**), as depicted in FIG. **1**F. Next, after reading the profile, user **14** may be interested in contacting Jane Doe; hence, user **14** would click contact button **35**. Matching server **20** would respond by allowing user **14** enter a message that matching server **20** would then communicate to Jane Doe.

Matching server **20** may even further be configured to allow user **14** to store a match result entity; in one embodiment, the system may be configured to allow user **14** to utilize favorite button **34** that will add the desired match result entity into another list. In another embodiment, utilizing favorite button **34** will remove the associated match result entity from result list **31**.

As an example only, user **14** may decide that he would like to save Jane Doe's profile so that he can review it later. User **14** may click favorite button **34**, and matching server **20** may respond by placing Jane Doe's profile into a separate list. Further, matching server **20** may also remove Jane Doe from user's **14** result list **31**. As a result, user **14** may see another match result entity populate result list **31**. This is beneficial because it may focus user **14** on evaluating new entities rather than reevaluating previously-known entities because the entities still appear in result list **31**.

In some embodiments, matching server **20** may be configured to generate pool **30** by default according to various characteristics and preferences of user **14** and other users of the system. Matching server **20** may also restrict entities from being included in pool **30** based on the status of the profile, or if user **14** has rejected or blocked an entity. Matching server **20** may also restrict entities from the pool that have blocked or rejected user **14**. For example, matching server **20** may not allow profiles that are not in good standing to be included in pool **30**. In other embodiments, matching server **20** may be configured to generate pool **30**

by first choosing seeds. Seeds include, but are not limited to, profiles that user has sent a message to or profiles that user **14** has expressed a preference for. Each seed is then compared to other entities to determine which entities will be included in pool **30**. Any suitable method can be used to determine which entities are included in pool **30**. For example, any characteristics or algorithms described herein may form the basis of such a determination. As another example, a commonality score may be generated based on the comparison between each entity and the seed. In some embodiments, this commonality score can be a measure of how physically similar the users are to each other. This score may be generated based on the number of users that have expressed a positive preference for both the seed and the entity being compared. This score may also be generated based on whether the seed and entity have been viewed together in one session; further, the more times the seed and entity have been viewed together, the larger the commonality score. The law of large numbers may allow for a vast amount of such commonalities to be established over a few days. Testing has revealed that using such commonality scoring methods has yielded at least one physical match for 80% of users whose profile has been viewed at least once, and between and 1000 physical matches for 60% of users whose profile has been viewed at least once. Matching server **20** may be further configured to allow entities that have a commonality score above a certain threshold to become a part of pool **30**. Matching server **20** may further be configured to update pool **30**. In some embodiments, matching server **20** may do so by creating new seed entities based on activity by user **14**, such as indicating a preference for that entity. Further, matching server **20** may then compare the chosen seed entity with other profiles stored in matching server **20** and determine whether those profiles will be included in pool **30** using a threshold score as described above. At least one advantage realized by this embodiment is that user **14** is presented with updated potential matches which increases the likelihood of user **14** finding a suitable match. Another advantage present in certain embodiments is that these updated potential matches have a greater likelihood of compatibility with user **14** since they are chosen based on their commonality with entities user **14** has expressed a preference for.

As an example only, consider the case in which user **14** has registered, requested a search, and received from matching server **20** results list **31**. Then, user **14** decides to contact Jane Doe and presses contact button **35**. Aside from providing user **14** with the ability to contact Jane Doe, matching server **20** will designate Jane Doe's profile as a seed. Matching server **20** will then compare Jane Doe's profile to other profiles stored in memory **26** in order to identify other users who may be similar to Jane Doe and thus be a good match for user **14**. In this example, matching server **20** will generate a commonality score for each of these comparisons and compare these scores to a preset threshold. If the commonality score is lower than the threshold, that profile will not be added to pool **30**. However, if the commonality score is higher than the threshold, matching server **20** will add this profile to pool **30**. As an example, further assume that the seed, Jane Doe, is being compared to another entity, Susan Smith. Based on the fact that both Susan and Jane have three users (Tom, Dick, and Harry) who have expressed a positive preference for their profiles, matching server **20** generates a commonality score of 100 for the comparison. In contrast, matching server **20** generated a commonality score of 50 for the comparison between the seed (Jane Doe) and yet another entity, Lucy Goosey. This was because only one user (Bob) had indicated a positive preference toward both Lucy and Jane. Continuing the example, matching server **20** is using a commonality threshold score of 70, which results in including Susan's profile (whose commonality score was greater than the threshold score) in pool **30** and excluding Lucy's (whose commonality score was less than the threshold score). Thus, user **14** gets the benefit of having more entities identified that may be good matches.

In some embodiments, matching server **20** may be configured to include behavioral scales. These may include multi-item scales for materialism and gender-role traditionalism. Such scales may provide the advantage of improved matching through deeper appreciation for the personality of entities in the system.

In some embodiments, matching server **20** may be configured to analyze profile text for categories. It may search for a number of text strings and then associate the profile with any number of categories. As an example only, matching server **20** may add any profile to the Cat category whose text contains any of the following strings:

"cat" "cats" "cat." "cats." "cat," "cats,"

Matching server **20** may be configured to make it more likely that a profile will be in a result list if categories associated with the profile are also categories found in the user's profile who submitted the search request.

Matching server **20** may be configured to analyze one or more portions of the text of an entity's profile and generate a readability score that may be used in various ways, such as in the process of searching for matches for user **14**. In some embodiments, matching server **20** may analyze factors such as, but not limited to: average number of words per sentence, total number of words with greater than three syllables, and total number of words in the profile. Matching server **20** may also concatenate all of the collected responses with a single space between them. It may further break the text into sentences, words, and syllables. From these statistics, matching server **20** may also be configured to generate a readability score by, in one embodiment, taking the average of the Flesch Kincaid Reading Ease test, the Flesch Kincaid Grade Level test, and the Gunning Fox score. Other embodiments may utilize any other combination of these or other tests to determine a readability score. In some embodiments, analyses may be used to determine the IQ of an entity, the grade level of the writing, or how nervous the entity generally is. An advantage of this embodiment may be that the system provides user **14** with a metric for determining approximate intelligence of other users. The readability score may be used, for example, in the matching process to identify potential matches.

As an example only, the Flesch Kincaid Reading Ease score may be generated by first computing the following intermediate score:

206.835−(1.015*[Average Words per Sentence])−(84.6*[Average Syllables per Word])

Then, the Flesch Kincaid Reading Ease score is determined by using the following table:

Intermediate Score Condition	Flesh Kincaid Reading Ease Score
<100	4
<91	5
<81	6
<71	7
<66	8
<61	9

-continued

Intermediate Score Condition	Flesh Kincaid Reading Ease Score
<51	10
<31	13
<0	14
Else	15

The Flesch Kincaid Grade Level may be computed according to the following:

(0.39*[Average Words Per Sentence])+(11.8*[Average Syllables Per Word])−15.59

The Gunning Fox score may be computed according to the following:

([Average Words Per Sentence]+(([Number Of Words With More Than 3 Syllables]/[Number of Words In Entire Text])+100))*0.4

As indicated, any suitable tests may be utilized in any suitable manner to determine a readability score.

In some embodiments, matching server **20** may be configured to allow a user to interact with the result list of another user. Matching server **20** may be configured to allow a user to express a preference for entities within a result list of another user, and to indicate to the other user of this preference. Thus, a user may be able to get advice from a friend regarding what other users may constitute good matches for the user and thus be able to find a better match.

As an example only, consider FIG. **1**A and FIG. **2**. Two users **14**, Harry and Sally, are connected to matching server **20** via terminals **10**. Display **12***a* is used by Harry while display **12***b* is used by Sally. Matching server **20** allows Sally to view Harry's result list **31** on her terminal in display **12***b*. By pressing recommend button **37**, Sally may indicate a preference for one or more of the entities in result list **31**. Assume Sally presses recommend button **37** associated with Jane Loe. After doing so, matching server **20** will notify Harry of Sally's preference. On Harry's display **12***a*, matching server **20** will cause notification **39** to appear, associating it with Jane Loe. Notification **39** will indicate to Harry that Sally has recommended Jane Loe as a potential match. Harry may find Sally's preference helpful in determining which entities he should pursue further if, for example, he believes Sally understands the type of person he is looking for.

In one embodiment, matching server **20** may be configured to analyze the profiles of both user **14** and the entities in pool **30** for keywords. Matching server **20** may be configured to search through the profile of user **14** for keywords that relate to things such as activities and interests. Matching server **20** may generate a score for each entity in pool **30** based on a comparison between the list of keywords found in user's **14** profile and a similarly-generated list of keywords of each entity in pool **30**. In one embodiment, this is accomplished by storing a list of words in memory **26**, and using it to identify keywords in the searched profiles. In some embodiments, identified keywords may be used as a means of weighting various scores. As an example only, a profile that contains the word "God" may be weighted much differently than a profile which has merely indicated that their religious preference is Christian. In various embodiments, this may provide an advantage to user **14** in that user **14** is able to determine how similar he/she is with a potential match. In addition, the keyword analysis may be used by the system when searching and identifying matches for a user.

As an example only, consider two registered users, Harry and Sally, both of whom have profiles stored in matching server **20**. Matching server **20** then analyzes each of these profiles by comparing it to a list of predefined keywords. Matching server **20** then associates each word that matched the list of keywords with each profile. Now assume that Harry performs a search. While fulfilling Harry's query, matching server **20** evaluates Sally's profile for inclusion in Harry's result list **31**. This evaluation includes comparing the list of keywords found in Harry's profile to the keywords found in Sally's profile. The more keywords that Harry and Sally have in common, the more likely it will be that matching server **20** will include Sally's profile in Harry's result list **31**.

In some embodiments, matching server **20** may be configured to impute a level of physical attractiveness to an entity in pool **30**. Matching server **20** may be configured to monitor how frequent an entity in pool **30** has been viewed as well as how many times that entity has been part of a result list in order to impute the level of physical attractiveness. Matching server **20** may further be configured to generate a score based on this data. Further, in some embodiments, matching server **20** may impute physical attractiveness to an entity based on the imputed physical attractiveness scores of other entities. Matching server **20** may compute an average of the imputed physical attractiveness scores of the other entities weighted by the commonality score between each of the other entities and the present entity. Empirical data indicates that people are more likely to match with people of similar attractiveness. Thus, in many embodiments, a user may obtain an advantage in that they are able to be presented with potential matches that, according to one measurement, are as attractive as the user.

As an example only, consider a registered user, Sally, whose profile was created by matching server **20** in January. Since that time, matching server **20** has recorded the number of times Sally's profile has appeared in any user's result list **31**; assume that this has occurred 10 times. Further, matching server **20** has also recorded the number of times a user has viewed Sally's profile by clicking view button **33** associated with Sally's profile; assume that this has happened 5 times. In this manner, matching server **20** has constructed a ratio that represents the imputed physical attractiveness of Sally's profile. Still further, assume that Harry, a registered user, now submits a query. Matching server **20** has evaluated the imputed physical attractiveness ratio of Harry's profile. When evaluating Sally's profile for inclusion in result list **31** returned to Harry, matching server **20** will compare the imputed physical attractiveness of Sally's profile and Harry's profile. The more similar the ratios associated with Harry and Sally's profiles are to each other, the more likely it is that Sally's profile will be selected by matching server **20** to be in Harry's result list **31**. In another example, assume that Sally's profile has not been registered long enough to generate a meaningful imputed physical attractiveness ratio. Matching server **20** may then generate an imputed physical attractiveness score based on entities that Sally does have commonality scores with. This computed average may be weighted by the strength of the commonality score between Sally and each entity with whom she has a commonality score. Continuing the example, assume that Sally has a commonality score of 5 with Lucy and 10 with Julia. When matching server **20** computes the Sally's average, it will give twice as much weight to Julia's imputed physical attractiveness score than to Lucy's.

In some embodiments, matching server **20** may be configured to make an entity in result list **31** more appealing to user **14** by pointing out coincidences in the profile data that

give user **14** a sense of fate with the entity. In one embodiment, matching server **20** may be configured to search for similar initials, birthplaces, birth dates, birth month, birth year, university, first names, last names, user handles, parental occupations, and keywords to identify users who may give another user a sense of fate. In other embodiments, matching server **20** may use the fate characteristics as a metric in the matching process.

As an example only, assume that Harry is a registered user who has performed a search. After matching server **20** returns a result list, Harry chooses to learn more about one of the entities in the result list and clicks view button **33**. Consider FIG. **3**, which is only an example of information that matching server **20** may return to Harry after clicking view button **33**. In Harry's display **12**, matching server **20** presents certain details about the profile. In particular, matching server **20** presents to Harry a fate notification **32** which points out specific similarities between the profile of the entity and Harry's profile. Reading fate notification **32** gives Harry a sense of familiarity which enhances his appreciation for the profile.

In another example, fate characteristics may be used to decide whether a profile in pool **30** is included in user's **14** result list **31**. Assume that Harry is a registered user who has submitted a matching query to matching server **20**. While determining which entities to include in Harry's result list, matching server **20** considers two profiles: Sally and Roxy. Sally and Harry both have the same birth date, initials, and have parents that work in the same profession. In contrast, Roxy and Harry only share the same birth place. Matching server **20** may be configured to award more points to Sally than to Roxy based on these comparisons, making it more likely that Sally's profile will be included in Harry's result list.

In some embodiments, matching server **20** may be configured to evaluate the likelihood of contact between user **14** and an entity in pool **30**. Matching server **20** may be configured to compare demographic data between user **14** and pool entity **30***a*. In another embodiment, matching server **20** may be configured to weigh the demographic similarities and differences based on the sex of user **14**. The demographic data may include, but is not limited to, age, education, ethnicity, income, and location.

As an example only, assume that Harry and Sally are registered users who have profiles in matching server **20**. Harry has submitted a search request to matching server **20**. While fulfilling this request, matching server **20** evaluates Sally's profile since her profile is in pool **30**. As part of the evaluation, matching server **20** looks at the differences between Harry and Sally's stated age, income, education, ethnicity, and location. In this example, Harry is 10 years older than Sally, makes $10,000 more per year, and has a Master's degree while Sally has a bachelor's degree. Even with these disparities, matching server **20** will give Sally's profile a high score which makes it more likely that Sally's profile will appear in Harry's result list. However, if it was Sally who submitted the search, and matching server **20** was evaluating Harry's profile, a different score is possible. So, if it were Sally who was 10 years older, made $10,000 more per year, and had a Master's degree while Harry had a Bachelor's degree, matching server **20** would give a low score to Harry's profile, making it less likely that his profile would appear in Sally's result list. Matching server **20** may be configured this way because empirical data has shown that these demographic differences do not have an equivalent effect on the choices men and women make regarding matches.

In another embodiment, matching server **20** may be configured to compare the locations of user **14** and pool entity **30***a* in increments of ten miles. In yet another embodiment, matching server **20** may be configured to score the location comparison in light of other factors; as an example, matching system **20** may be configured to return a score consistent with a 10 mile difference in location even though there is a 50 mile difference between user **14** and pool entity **30***a* if user **14** and pool entity **30***a* have the same income, education, and age. An advantage realized in several embodiments is that it better approximates how a user evaluates entities. Entities that live further away are generally less appealing to a user; but, users may still be interested if the entity matches their preferences in other categories.

As an example only, consider a registered user, Harry, who submits a search request. While fulfilling this request, matching server **20** examines Sally's profile in pool **30**, and determines that the stated locations of Harry's and Sally's profiles are 13 miles apart. Matching server **20** will give Sally's profile a score as if the distance between them were only 10 miles. However, in yet another example, Sally's profile may indicate that she lives 50 miles away from Harry. Yet, matching server **20** also notes that both Harry and Sally make $100,000 per year, have Master's degrees, and that Harry and Sally are one year apart in age (Harry is older). Given these similarities, matching server **20** will give a score to Sally's profile that is consistent with a 20 mile difference in location even though they are actually 50 miles apart. In this manner, matching server **20** takes into account empirical data that shows that people searching for matches who indicate that they want to see matches who live close to them are still willing to pursue a potential match that lives far away if the potential match fits very closely with the other search criteria.

In another embodiment, matching server **20** may be configured to evaluate the age difference between user **14** and pool entity **30***a* using ranges as well as a sliding scale. By way of example only, matching server **20** may be configured to assign a high value to an age difference between 0 and −5, while assigning a lower value to an age difference between +2 and 0. An even lower value may be assigned to an age difference between −6 and −8. Even lower values would be assigned incrementally as the age difference increases outside of the ranges discussed. The higher the assigned value is, the more likely it will be that pool entity **30***a* will be included in result list **31**. Yet another embodiment may apply this combination of ranges and a sliding scale but use different values and ranges depending on the sex of user **14**.

As an example only, consider a situation in which a registered user, Harry, requests a search to be performed. While fulfilling this request, matching server **20** evaluates Sally's profile, which was in pool **30**. As part of the evaluation, matching server **20** compares the ages of Harry and Sally, and determines that Harry is two years older than Sally; this determination leads to matching server **20** assigning, in this example, points to Sally's profile. Matching server **20** may also be configured to assign 50 points to Sally's profile had she been five years younger than Harry; but, if she had been up to two years older than Harry, matching server **20** may have been configured to assign 40 points to her profile. Matching server **20** may be further configured to assign 30 points to Sally's profile if she was 6 to 8 years younger than Harry. However, if Sally were more than 8 years younger than Harry, matching server **20** may be configured to further decrease the number of points assigned to her profile: if she was 9 years younger, then 25 points; if

she was 10 years younger, 20 points; if she was 11 years younger, 15 points; etc. The more points assigned to Sally's profile, the more likely it is that her profile will appear in Harry's result list. Thus, matching server **20** may be configured to assign a score based on age difference using a combination of ranges and a sliding scale.

In another example, matching server **20** may assign scores differently if it was Sally who was searching and if it was Harry's profile that was being evaluated. In this example, matching server **20** may be configured to assign Harry's profile 50 points if he were between 1 and 5 years older than her. If he were 6 to 8 years older than her, matching server **20** may assign 45 points. If he were greater than 8 years older than her, matching server **20** may assign points in the following fashion: if he was 9 years older, 40 points would be assigned; if he was 10 years older, 35 points would be assigned; etc. However, if he was up to two years younger than Sally, matching server **20** may assign 50 points to his profile. If he were more than two years younger, matching server **20** may assign less points on a sliding scale: 45 points if he were 3 years younger, 40 points if he were 4 years younger, etc. The more points assigned to Harry's profile, the more like it is that his profile will appear in Sally's result list. This example illustrates how matching server **20** may be configured to take the sex of user **14** into account when scoring based on age differences.

In various embodiments, matching server **20** may be configured to evaluate the attractiveness of an entity in pool **30** through collected feedback from other users. In one embodiment, matching server **20** may present an entity to user **14**, prompting user **14** to rate the attractiveness of the entity on a scale from 1-9. This range gives the advantage of having a midpoint. Matching server **20** may further be configured to collect such responses and store them; in one embodiment, matching server **20** may store the data in memory **26**, using a structure such as database **26***b*. Matching server **20** may further be configured to compute the average of such responses for the entity, and store this number as well. In various embodiments, these values may be used in order to help in the matching process. Empirical data indicates that people are more likely to match with people of similar attractiveness. Thus, in various embodiments, users whose attractiveness rating are similar will be more likely to appear in each other's result list. Further, a user may indicate that they only want profiles in their result list whose average attractiveness rating is higher than an indicated threshold.

As an example only, assume registered user, Harry, uses terminal **10**, which in this example is Harry's personal computer, and establishes communication with matching server **20**. In this example, this communication occurs by Harry using a Web browser to access a Web page controlled by matching server **20**. Sometime after visiting the Web page, matching server **20** may present Harry with an option to rate the physical attractiveness of other users registered with matching server **20**. Using display **12** and interface **16**, Harry may view profiles of registered users and rank them on a scale of 1-9 by entering the values using interface **16**; in this example, interface **16** comprises a mouse and/or a keyboard. After submitting this rating, matching server **20** will associate it with the profile and store it. Matching server **20** will also allow other users to rate profiles, thereby collecting a plurality of rankings for profiles. Matching server **20** may use this data when trying to find matches for users. One example of this is that matching server **20** may allow user **14** to specify that he/she is searching for profiles which have an average rating of 6 or above. In turn, matching server **20** may populate user's **14** result list from the pool only with profiles whose average rating is at 6 or above. Another example of how matching server **20** may use this data involves making it more likely that an entity will appear in a user's result list if the entity and that user have a similar average attractiveness rating. So, if a user has an average rating of 6, then an entity with an average rating of 5 may be more likely to appear in the user's result list than an entity with an average rating of 2.

In another example, assume that Harry is a registered user and has requested a search. While fulfilling this request, matching server **20** evaluates Sally's profile. As part of this evaluation, matching server **20** notices that Sally's profile contains feedback from other users ranking the attractiveness of Sally's profile. Matching server **20**, in this example, averages that data; Sally's profile average is 6. Matching server **20** may then examine Harry's profile to determine a similar average. If Harry's profile has an average close to 6, it will be more likely that matching server **20** will include Sally's profile in Harry's result list. If Harry's profile average is lower than 6, it will be less likely that Sally's profile will be included in Harry's result list. If Harry's profile average is greater than 6, it will be even less likely that Sally's profile will be included in Harry's result list. The more Harry's profile average deviates from that of Sally's, the less likely it will be that matching server **20** will present Sally's profile in Harry's result list.

In some embodiments, matching server **20** may be configured to analyze profile information and received activity information to construct "pairs" which link at least two profiles. These pairings may also be associated with a value that ascertains the quality of the pairing. For example, a pairing which results from one user viewing the profile of another user may be assigned a value that is less than a pairing which results from a first user viewing the profile of a second user when the second user has also viewed the first user's profile. Matching server **20** may use these pairings in order to generate search results for entities within and outside of the pairing. Each member of the pair may be used as a seed entity for generating search results for users in matching server **20**. In various embodiments, an advantage may be realized as matching server **20** analyzes many of these pairs to develop dynamic results to users of the system, the results being potentially more relevant as matching server **20** leverages the interaction between users and profiles to generate search results.

Pairs may be formed from a variety of user activity received by matching server **20**. This activity may include: profile views, mutual profile views, one-way double blind communication, mutual double-blind communication, declining double blind communication, one way wink, mutual wink, expressing disinterest in response to receiving a wink, one way favorite, and mutual favorite. Other suitable activity may also be received by matching server **20** and utilized as a basis for generating pairs.

For example, Harry may be a registered user who has expressed a positive preference for Sally. Matching server **20** may be configured to generate a pair which includes Harry and Sally. Matching server **20** may utilize this pair when providing search results to other users. Betty may have requested matches, and Betty may be similar to Sally. Matching server **20** may present Harry in Betty's result list as a result of the pairing between Harry and Sally. Further, Jim may have executed a search and Jim may be similar to Harry. As a result of the pairing between Sally and Harry, matching server **20** may present Sally in Jim's list of search results.

In some embodiments, matching server **20** may be configured to encourage user **14** to interact with entities in pool **30**. For example, matching server **20** may present a list of limited entities from pool **30** to user **14**, but not present other entities to user **14** unless user **14** interacts with the already presented entities. Possible interaction with these entities may include viewing more information regarding the entity, expressing a positive or negative preference for the entity, and choosing to contact the entity. Other suitable forms of interaction may also be utilized. For example, matching server **20** may prompt the user with a question about the list of entities, such as asking whether or not the user likes the entity. Responses to such prompts may include "yes," "maybe," "no," "remove," and "remove other." The presented entities may be chosen using a variety of methods. For example, the presented entities may be chosen based on various scoring algorithms as described above. In addition, presented entities may be chosen using predictive analysis, such as logistical regression. Other techniques may be used to determine the presented entities. For example, entities that have been presented previously may be excluded. As another example, entities that have been blocked by user **14** may also be excluded. In various embodiments, a combination of these techniques as well as others may be used to determine the limited number of entities presented to user **14**.

For example, Harry may be a registered user of the matching system. Matching server **20** may be configured to present to Harry a list of five entities that Harry must interact with. Once Harry has interacted with these entities, matching server **20** may present five more entities for Harry to interact with. Previously, Harry has blocked Sally, another registered user of the system. As a result, matching server **20** may exclude Sally from being presented to Harry in the list of five entities. Further, Harry has already interacted with Betty, another registered user of the system: Harry sent a message to Betty utilizing matching server **20**. As a result, Betty will be excluded from being presented to Harry in the list of five entities. Matching server **20** may then choose two of the five entities using scoring algorithms described above. For example, matching server **20** may choose Alice and Amy to be presented in the list of five entities because Alice and Amy have received high scores when their profiles were compared to Harry's profile. Matching server **20** may choose the remaining three entities using predictive analysis. According to this example, matching server **20** may use logistical regression to identify Carla, Christi, and Camela as the other three entities to present to Harry. Thus, in this example, Harry is presented with a list of five entities by matching server **20**. Matching server **20** may not present another set of five entities until Harry has interacted with these five entities. Harry may interact with these entities in a variety of ways. For example, Harry may send a message to Alice and send a "wink" to Amy. In addition, Harry may choose to view more information about Carla's profile, but express a negative preference towards Christi and Camela. After matching server **20** receives these types of interaction with the presented five entities, another set of five entities may be presented to Harry.

In this example, matching server **20** may further be configured to process the user interaction provided by Harry. For example, matching server **20** may utilize Alice's profile as a seed entity to generate other possible entities to present to Harry since Harry sent a message to Alice. Thus, a benefit is from presenting a the five entities to Harry in that the interaction between Harry and these entities may be utilized by matching server **20** to generate other entities for matching to Harry. This serves as an example of how preferences may be identified based on user behavior.

In FIG. **4**, one embodiment is disclosed wherein matching server **20**, with pool **30**, may be configured to interact with another platform, such as social networking platform **50**, containing a set **52** of users. Users **14** are communicatively coupled to matching server **20** and social networking platform **50**. Matching server **20** may further be configured to provide users of social networking platform **50** a service by which they may search for users within set **52** or within pool **30** using the algorithms and processing of matching server **20**. Matching server **20** may even further be configured to allow users of matching server **20** to search through pool **30** and set **52**. Matching server **20** may be configured to parse the profiles of the entities in set **52**, collecting data and applying algorithms.

In another embodiment, matching server **20** may be configured to allow users of social networking platform to interact with matching server **20** using social networking platform **50**. This level of integration provides the advantage of users not having to learn and sign up for a different platform.

Social networking platform **50**, in one embodiment, may be a service which stores profiles of its users. This service may be further configured to provide access to the stored profiles. In one embodiment, social networking platform **50** may also allow other services to interact with users of social networking platform **50** through social networking platform **50**.

In one embodiment, matching server **20** may be configured to collect requests from users of social networking platform **50** and perform a search through pool and set **52**. Matching server **20** may further be configured to present the results of this search from within social networking platform **50**. Matching server **20** may further be configured to present entities in the search result from pool **30** as if they were entities of set **52**; in one embodiment, matching server **20** may be configured to generate profiles of entities from pool **30** into set **52**. Thus, users of social networking platform **50** may view all of the entities in the search result, regardless of their source (either from pool **30** or set **52**), within the environment of social networking platform **50**.

As an example only, consider two users: Harry, for whom matching server **20** has created a profile, and Sally, who has a profile stored in social networking platform **50**. From within social networking platform **50**, matching server **20** presents to Sally the ability to perform a search which Sally uses. The results of this search are presented to Sally within social networking platform **50**. In this example, Harry's profile is displayed to Sally as a search result along with other entities from set **52** though Harry's profile was from pool **30**. In this example, matching server **20** uses the algorithms discussed herein and searches through the profiles stored in pool **30** and set **52**. In order to display Harry's profile to Sally, matching server **20** creates a profile in set **52** using the data stored in Harry's profile in pool **30**. Sally is then able to interact with this newly created profile from within social networking platform **50** in the same manner as she is other entities in set **52**.

In another embodiment, matching server **20** may be configured to allow its users to interact with social networking platform **50** through matching server **20**. In one embodiment, matching server **20** supplements pool **30** with set **52**. In yet another embodiment, entities from set **52** appear as entities of pool **30** to the user in their list of search results. In one embodiment, matching server **20** may be configured to generate profiles within pool **30** from entities of set **52**; the

system may be configured to do so through capabilities provided by social networking platform **50**, such as an application programming interface.

As an example only, consider two users: Harry, whose profile is stored in matching server **20**, and Sally, whose profile is stored in social networking platform **50**. Harry submits a search request to matching server **20**. Matching server **20** may return result list **31** to Harry, which, in this example, contains an entity representing Sally's profile. Matching server **20** may accomplish this by creating profiles in pool **30** that correspond to the profiles found in set **52**. Once these profiles have been imported into pool **30**, matching server **20** may then search through pool **30**. While doing so, matching server **20** applies the algorithms and scores discussed herein. Thus, in this example, matching server **20** has been configured to both search and apply scoring algorithms to entities in pool **30** and set **52**. Further, in one example, Harry is not able to distinguish that Sally's profile was originally stored in social networking platform **50**. Rather, matching server **20** presents Sally's profile in the same manner as other profiles stored in pool **30**. Thus, in this example, Harry may use favorite button **34**, view button **33**, and contact button **35** when interacting with Sally's profile in the same manner as described above.

One advantage present in various embodiments is that a user has a wider pool of entities to search through. Another advantage is that a user does not have to sign up with several platforms to search through the users on those platforms.

FIG. **5** is a flowchart illustrating one embodiment of how result list **31** may be generated. At step **62**, matching server **20** generates pool **30**, as described above. At step **64**, matching server **20** applies a filter to pool **30**, removing certain entities; in various embodiments, this filter is based on user's **14** own sex and the sex user **14** desires to be matched with. At step **66**, matching server **20** may be configured to apply algorithms to pool **30** that will generate a plurality of scores for each entity in pool **30**. In one embodiment, these algorithms may include analyzing the text of the profiles of the entities in pool **30** to generate a readability score, determining how attractive an entity of pool **30** is, or measuring how likely it is that user **14** will contact an entity of pool **30**. At step **68**, matching server **20** may be configured to collect all of the scores from step **66**; in one embodiment, matching server **20** may use database **26***b* to store all of these scores. At step **70**, matching server **20** may be configured to apply an ordering algorithm which will determine the order in which entities in result list **31** are presented to user **14**. In one embodiment, this ordering algorithm is based, in part, on the scoring algorithms applied at step **66**. The ordering algorithm assigns points to each entity and orders them based on these values, constructing result list **31**. An embodiment of this ordering algorithm is summarized in the following table:

Condition	Number of Points for Ordering
Readability score 1 point higher than user	+33554432
Match result entity has expressed a preference for the user	+16777216
Match result entity has been recommended by a friend of the user	+8388608
User has viewed the details of match result entity	+2097152
Match result entity has commonality with an entity user has expressed a preference for	+1048576
Both have the same ambition	+128
Both have the same beliefs	+16384
Same answer for Build	+64
Same answer for Car	+1
Both have the same diet	+4
Both have the same preference for drinking alcohol	+131072
Same answer for Ethnicity	+1024
Same answer for Fear	+256
Same answer for Hair	+2
Same answer for Number of children	+524288
Same answer for morning	+32
Same answer for "must have"	+32768
Same answer for "night out"	+16
Same answer for "pets"	+65536
Same answer for politics	+8192
Same answer for relationship status	+0
Same answer for "romance"	+512
Same answer for smoking preferences	+262144
Same answer for sports interests	+8
Same answer for "system"	+4096

As an example only, consider a registered user, Harry, who desires to perform a search. Before processing the request, matching server **20** may ask Harry what sex he is and what sex does he desire to be matched with; in this example, Harry responds that he is a male seeking a female. After doing so, matching server **20** will generate pool **30** as described above. Next, matching server **20** will apply a filter to remove certain entities from pool **30**. In this example, all males will be removed from pool **30** since Harry is seeking a female. Further, all females seeking females will be removed from pool **30** since Harry is a male. In other examples, other entities that are removed from pool **30** include entities that Harry has expressed a negative preference for before, or entities that have expressed a negative preference for Harry. After pool **30** has been filtered, matching server applies a variety of scoring algorithms to the entities remaining in pool **30**. These algorithms may account for various comparisons such as those based on readability, likelihood to contact, fate, and keywords described above. Matching server **20** will then tabulate these scores, storing them, in this example, in database **26***b*. Matching server **20** will then determine what order these entities are presented to Harry by applying an ordering algorithm. Here, matching server **20** assigns one ordering score to each entity by examining the results of the scoring algorithms. After doing so, matching server will present result list **31** to Harry, where the order of the entities that appear in the result list is based on the ordering algorithm. In this example, it is possible for result list **31** to change. Consider another user, Sally, who appears in Harry's result list. If Harry decides to add her into a separate list by using favorite button **34**, Sally will be removed from result list **31** (as described above). However, Sally will also become a seed entity from which entities may be added to pool **30** (as described above). Hence, matching server **20** will update the pool, apply the filters, apply the scoring algorithms, tabulate the results, apply the ordering algorithm, and update result list **31**. As another example, an

entity may update their profile which can change result list **31**. For example, assume Sally's profile had an ordering algorithm score that placed her within the top 20 entities in result list **31**. Sally then changes her profile which results in keywords that match Harry's profile being added to her profile. Matching server **20** will then update her scoring algorithms. In this example, the change in Sally's profile and resulting increase in keyword matches with Harry's profile significantly increased her score. This was then reflected in the ordering algorithm as it was also applied to the updated profile. Afterwards, Sally's profile is now placed within the top 5 entities in result list **31**.

In some embodiments, matching server **20** may be configured to receive required characteristics from user **14** regarding a match. User **14** may be allowed to specify such restrictions based upon any number of characteristics, including those described herein. For example, matching server **20** may allow user **14** to specify that entities that indicate they have children should not be displayed. In another example, user **14** may specify that only entities between the ages of 20 and 30 should be present in result list **31**. In some embodiments, matching server **20** may implement these restrictions in step **64** of FIG. **5**. In other embodiments, however, matching server **20** may refuse to apply these restrictions to certain entities based on the characteristics of the entities. Any number of characteristics, including those described herein, may form the basis upon which matching server **20** decides not to apply the restrictions submitted by user **14**. As an example only, matching server **20** may ignore the restrictions if the entity has a high enough attractiveness rating. In another example, though user **14** has requested that no profiles which are located more than 50 miles away should be present in result list **31**, matching server **20** may include such profiles because those profiles have over 5 matching keywords, a high attractiveness rating, and have specified the same life goals as user **14**. Thus, in some embodiments, matching server **20** may refuse to apply restrictions submitted by user **14** based on any combination of characteristics or algorithms.

An advantage present in many embodiments is that through taking into account various factors when scoring potential matches and using only very few strict filters, a large amount of result entities may be returned to the user. A further advantage is that the ordering algorithm will put the most relevant search results first, saving the user time.

FIGS. **6-9** depict embodiments of a user interface presented to users of the matching system discussed above with respect to FIGS. **1** and **4**. According to some embodiments, users **14** interact with matching server **20** through interface **16** presented by terminal **10**. In addition to the embodiments of interface **16** described above in relation to FIG. **1**A, interface **16** may also comprise a touch screen interface operable to detect and receive touch input such as a tap or a swiping gesture. In some embodiments, matching server **20** may import profiles from other social networking systems. This level of integration provides the advantage of users only having to update their profile information in one place. For example, when user **14** updates his profile within social networking platform **50**, matching server **20** is also able to access the updated profile information.

In some embodiments, matching server **20** may further be configured, as part of the user registration process, to link to a user's existing profile within social networking platform **50**. Matching server **20** may be configured to parse the profiles of the users in set **52**, e.g., collecting data and applying algorithms. For example, matching server **20** may use explicit signals from social networking platform **50** such as common friends, common interests, common network, location, gender, sexuality, or age to evaluate potential matches between users **14**. Matching server **20** may also use implicit signals such as for whom a user **14** expresses approval and disapproval. Implicit signals may also include facial recognition algorithms to detect ethnicity, hair color, eye color, etc., of profiles that user **14** has expressed interest in.

In particular embodiments, matching server **20** may have users **14** to link their user profiles to an existing profile within social networking platform **50**. Matching server **20** may be configured to generate and add profiles to user profile pool **30** from entities of set **52**; the system may be configured to do so through capabilities provided by social networking platform **50**, such as an application programming interface. One advantage of linking is that matching server **20** can use the authentication features provided by social networking platform **50**. For example, creating a user profile on matching server **20** containing false information becomes harder when the information must come from another verifiable and peer monitored source such as social networking platform **50**.

In some embodiments, matching server **20** may allow a user **14** to propose a match between two of his connections within social networking platform **50**. For example, Harry may be friends with both Bob and Sally within social networking platform **50**. Harry believes Bob and Sally are a good match and therefore instructs matching server **20** to create a match between the two users in user profile pool **30**. Once matched, matching server **20** allows Harry and Sally to communicate with each other.

In some embodiments, matching server **20** may be configured to apply a relevance algorithm which determines the content and order in which matching server **20** displays potential matches to user **14**. A relevance algorithm may be based on both explicit and implicit signals from user **14**. Explicit signals include information entered by user **14** as part of its user profile, such as height, weight, age, location, income, and ethnicity. Explicit signals may also include information about the characteristics user **14** is seeking in a match, such as gender, hair color, eye color, or occupation. Explicit signals may also be entered by user **14** as part of a search request. For example, user **14** may request matching server **20** limit the pool of potential matches to those users within a fixed geographic region. Matching server **20** is operable to compare geographic positions associated with the plurality of user profiles in user profile pool **30** with a geographic position associated with user **14**. Explicit signals may be imported from a social networking platform **50**, such as the number of shared entities in a social graph of user **14**. Implicit signals may be based on the behavior of user **14** either within system **100** or other social networking platforms **50**. For example, if user **14** has expressed disapproval of a user profile in the past, matching server **20** may no longer present the disapproved of user profile to user **14** in future searches. In various embodiments, matching server **20** may be configured to evaluate the attractiveness of a user in user profile pool **30** through collected feedback from other users. For example, matching server **20** may rank a user profile that receives more likes as more relevant than a user profile that receives fewer likes. In particular embodiments, matching server **20** may assign a higher relevance to a user profile if the other user has previously expressed a preference for user **14**. As an example, user Harry may have previously expressed a preference for user Sally. If Sally requests a set of user profiles from matching server **20**, and Harry's user profile is included in the set, matching server **20**

may assign Harry's user profile a higher relevance based on his expression of preference for Sally. This can result in Harry's profile being presented to Sally sooner than otherwise would have occurred. This may be advantageous in that it can increase the chances of a match without compromising a user's feelings of privacy when expressing preferences for potential matches. In some embodiments, matching server **20** may be configured to use the fate characteristics as a metric in the relevance algorithm.

In some embodiments, terminal **10** is operable to determine its own geographic location by a global positioning satellite navigational system. Terminal **10** may also determine its own geographic location using cellphone-based triangulation techniques, Wi-Fi based positioning system, Global Positioning Satellite (GPS) system, or network addresses assigned by a service provider.

FIG. **6** shows one embodiment of system **100** displaying to a user the profile information of a second user. Matching server **20** may be configured to search through its plurality of profiles and present suggested matches to user **14**. In FIG. **6**, one embodiment of this presentation is depicted as occurring through the display of terminal **10**. In this embodiment, a plurality of user profiles is presented to user **14**. Using terminal **10**, user **14** may request that matching server **20** present a subset of users from user profile pool **30** based on specified search parameters. The display may show an image of a suggested user and one or more aspects of the suggested user's profile information. In some embodiments, the combination of image and one or more aspects of profile information is displayed as "card" **88** representing the suggested user. A set of suggested users may be displayed as stack of cards **88**. User **14** may view information regarding one suggested user at a time or more than one of the suggested users at a time. User **14** may be presented with a summary of information regarding a suggested user. The summary may include one or more of: a picture, an icon, name, location information, gender, physical attributes, hobbies, or other profile information.

In some embodiments, terminal **10** may also display "information" button **84** which allows user **14** to request matching server **20** to retrieve and display more information about the presented user from user profile pool **30**. In addition, user **14** may express approval or disapproval for a presented user. Expressing approval or disapproval can be accomplished through various methods. For example, terminal **10** may display "like" button **86** (represented by a green heart icon) and "dislike" button (represented by a red "X" icon). Pressing like button **86** indicates to matching server **20** that user **14** approves of and is interested in communication with the presented user. Pressing dislike button **82** indicates that user **14** disapproves of and does not want to communicate with the presented user. The approval preference of user **14** is anonymous in that matching server **20** does not inform users **14** whether other users have expressed approval or disapproval for them.

As an example, consider two registered users, Harry and Sally, both of whom have profiles stored in matching server **20**. Harry is at a restaurant and requests matching server **20** to present him users within a one-mile radius of his location. Matching server **20** compares a geographic position associated with Sally with a geographic position associated with Harry. If Sally is currently within the one-mile radius of Harry and matching server **20** determines her profile information matches Harry's preferences, matching server **20** will present Harry one or more aspects of Sally's profile information. If other users also meet the search criteria, matching server **20** will present one or more aspects of those users' profile information as well. Harry may request more information about Sally by pressing information button **84**. Harry may also indicate his preference to communicate directly with Sally by selecting like button **86**. In another example, Harry may expand his search to a twenty-five mile radius to meet people in his town, not just his immediate vicinity.

FIGS. **7** and **8** are diagrams of embodiments of the display from FIG. **6** showing the effect of a left swipe gesture (FIG. **7**) and the effect of a right swipe gesture (FIG. **8**). In one embodiment, users **14** may navigate through the set of presented users by swiping through stack of cards **88**. Users **14** may also express approval of a presented user by performing a right swipe gesture or express disapproval by performing a left swipe gesture. In some embodiments, user **14** performs a swiping gesture by moving a finger or other suitable object across a screen of terminal **10**. Other suitable gestures or manners of interacting with terminal **10** may be used (e.g., tapping on portions of a screen of terminal **10**).

In some embodiments, matching server **20** creates a match between two users **14** after both users **14** have expressed a preference for each other's profiles using like button **86** or the swiping gesture associated with like button **86**. When matching server **20** creates a match, it may also provide the matched users with the ability to contact each other through a contact button. In some embodiments, when a match is created, matching server **20** may immediately (or soon thereafter) present an option to users **14** that have been matched to engage in a communication session (e.g., a chat, an SMS message, an e-mail, a telephone call, a voice communication session, a video communication session). This may be done in response to a first user **14** expressing a preference for a second user **14** that has already expressed a preference for the first user **14**.

FIG. **9** shows one embodiment of matching system **100** displaying a match of a first user and a second user, in accordance with a particular embodiment. Matching server **20** may provide first user **14** and second user **14** with each other's contact information such as a telephone number or an e-mail address. Matching server **20** may also provide both first and second users **14** with a way to directly contact the other, such as sending a message or providing voice or video communication between the first and second user. In some embodiments, direct communication may be initiated by pressing "Send a Message" button **92**. Alternatively, a user may choose to continue browsing the set of presented users by pressing "Keep Playing" button **94**.

For example, user Harry may indicate a preference to communicate directly with user Sally by selecting like button **86**. At this point, Sally is not aware that Harry expressed a preference for her. If Sally also requests matching server **20** present her with a set of possible matches, Harry may appear in her set. Sally may select like button **86** (or perform an associated swiping gesture) when viewing Harry's profile. Matching server **20** may then notify both Harry and Sally that a match occurred. At this point, both Harry and Sally are made aware that they each expressed approval of each other's profile. Matching server **20** then enables Harry and Sally to directly communicate with each other (e.g., through a private chat interface).

In some embodiments, one advantage of a system disclosing preferences of profiles to users when mutual approval has occurred is that a user can feel more secure in their privacy knowing that their preferences will be disclosed to those that have expressed a preference for that user. As an example, a user can avoid embarrassment if their expression of preference for a profile was not reciprocated.

This may lead to users more actively expressing their preferences. Such increased activity can be used by the matching system to generate more potential matches or better rankings of potential matches. In some embodiments, matching server **20** may be configured to allow direct communication between users when there has been a mutual expression of preference. This may be advantageous because users can avoid browsing, deleting, or responding to unwanted messages.

FIG. **10** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a mutual expression of approval, in accordance with a particular embodiment.

At step **1002**, in some embodiments, matching server **20** generates a set of user profiles in response to a request for matching from a first user **14**. At step **1004**, matching server **20** presents the set of user profiles to first user **14**. Matching server **20** determines the contents and ordering of the set of users profiles by using, e.g., the relevance algorithms described above in the discussion of FIG. **4**. For example, matching server **20** may only include user profiles whose contents indicate location within a specified geographical radius and order the presentation of those user profiles based on the number of mutual friends in common with first user **14**.

At step **1006**, in some embodiments, matching server **20** receives an indication of the preference of first user **14** regarding a presented user profile. Matching server determines if first user **14** expresses approval or disapproval of the presented user profile at step **1008**. If first user **14** disapproves of the presented user profile then a match is not made and, at step **1016**, matching server **20** will not allow communication between the two users. If first user **14** expresses approval for the presented user profile at step **1008**, then matching server **20** will check if second user **14** represented by the presented user profile has already expressed a preference for first user **14** at step **1010**. If matching server **20** detects a mutual expression of approval then a match is made between first and second users **14**. Then, at step **1012**, matching server **20** allows private communications between first and second users **14**. If a mutual expression of approval is not detected at step **1010**, then matching server **20** stores the preference of first user **14** regarding the presented user profile for future comparison and continues to step **1016** where private communications are not yet allowed.

FIG. **11** is a flowchart depicting a method for enabling communication between two users of the matching system of FIG. **1** based on a matching proposal suggested by a user, in accordance with a particular embodiment. At step **1102**, matching server **20** receives interactions from first user **14**. Interactions from first user **14** may include identification of user profiles for two other users **14**. For example, Harry is connected to both Bob and Sally within social networking platform **50**. Harry believes Bob and Sally are a good match for each other and generates a matching proposal requesting matching server **20** to create a match between Bob and Sally.

At step **1104**, in some embodiments, matching server validates the suggested matching proposal between second and third users **14**. For example, matching server **20** verifies that Bob's profile indicates that he wants to be matched with a woman, and Sally's profile indicates that she wants to be matched with a man. Matching server may also verify that Sally has not previously expressed disapproval for Bob. If matching server **20** determines the suggested matching proposal is valid, matching server **20** creates the match and allows communication between the users **14** suggested to be matched at step **1106**. If matching server **20** determines the suggested matching proposal is not valid, matching server **20** does not create a match and does not allow communication between second and third users **14** at step **1108**. In some embodiments, step **1104** may not be performed. For example, if a matching proposal is suggested, then matching server **20** may perform step **1106** with respect to the users suggested to be matched.

FIGS. **12**A-D depict embodiments of a user interface. In some embodiments, the interface allows user **14** of terminal **10** to enable communication between other users **14** by suggesting a matching proposal to matching server **20**.

FIG. **12**A illustrates one embodiment of an interface for proposing a match between two users. The interface is divided into three sections: connection list area **1202**, search area **1204**, and suggestion area **1206**. Connection list area **1202** displays a set of connections user **14** has with other users of, e.g., system **100** of FIG. **1**. Connections may be based on prior matches created by matching server **20**. Connections may also be imported from another social networking platform **50**. Search area **1204** enables user **14** to search for particular connections within system **100**. In some embodiments, the search may be limited to just the connections displayed in connection list area **1202**. Suggestion area **1206** displays the connections that user **14** may use to form a suggested match.

FIG. **12**B illustrates suggestion area **1206** displaying a first selected user (i.e., "Jonathan Smith") of a proposed match between two users. User **14** identifies the first selected user through a set of interactions with connection list area **1202**, search area **1204**, and suggestion area **1206**. For example, user **14** may locate a connection in connection list area **1202** by typing a user handle in search area **1204**. User **14** may then add the connection to suggestion area **1206**. In some embodiments, user **14** may drag the connection from connection list area **1202** to suggestion area **1206**.

FIG. **12**C illustrates suggestion area **1206** displaying a proposed match between two suggested users (i.e., "Jonathan Smith" and "Mary Major"). For example, user **14** may locate a second connection in connect list area **1202** that user **14** believes is a match for the first connection. User **14** may add the second connection to suggestion area **1206**. When both connections are added to suggestion area **1206**, matching server **20** may create a match between the two users and allow communication between them.

FIG. **12**D illustrates an example communication interface between users of the matching system. User **14** is presented with chat box **1208** for each of the matches that exist for user **14**. Users **14** may communicate with each other through chat box **1208**. In some embodiments, users **14** may communicate through SMS messages, e-mail, telephone calls, online voice communication sessions, and/or video communication sessions.

Modifications, additions, or omissions may be made to the methods described herein (such as those described above with respect to FIGS. **5**, **10** and **11**) without departing from the scope of the disclosure. For example, the steps may be combined, modified, or deleted where appropriate, and additional steps may be added. Additionally, the steps may be performed in any suitable order without departing from the scope of the present disclosure.

Although several embodiments have been illustrated and described in detail, it will be recognized that substitutions and alterations are possible without departing from the spirit and scope of the appended claims.

What is claimed is:

1. A non-transitory computer-readable medium comprising instructions that, when executed by a processor, are configured to:

electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user;

electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device;

determine from the plurality of user online-dating profiles a set of potential matches for the first user;

cause the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

receive from the first electronic device of the first user a first positive preference indication associated with the graphical representation of the second user on the graphical user interface, the first positive preference indication associated with a first gesture performed on the graphical user interface, wherein the first gesture comprises a first swiping gesture;

cause the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

receive from a second electronic device of the second user a positive preference indication regarding the first user;

determine to allow the first user to communicate with the second user in response to receiving from the first electronic device of the first user the first positive preference indication regarding the second user and receiving from the second electronic device of the second user the positive preference indication regarding the first user;

receive from the first electronic device of the first user a first negative preference indication associated with a graphical representation of a third potential match on the graphical user interface, the first negative preference indication associated with a second gesture performed on the graphical user interface, the third potential match corresponding to a third user, wherein the second gesture comprises a second swiping gesture different than the first swiping gesture;

without allowing communication between the first user and the third user, receive from the first electronic device of the first user a second positive preference indication associated with a graphical representation of a fourth potential match on the graphical user interface, the second positive preference indication associated with the first gesture performed on the graphical user interface, the fourth potential match corresponding to a fourth user;

receive from a third electronic device of the fourth user a second negative preference indication associated with a graphical representation of the first user; and

without allowing communication between the first user and the fourth user, receive from the first electronic device of the first user a third positive preference indication associated with a graphical representation of a fifth potential match on the graphical user interface, the third positive preference indication associated with the first gesture performed on the graphical user interface, the fifth potential match corresponding to a fifth user.

2. The medium of claim 1, wherein at least one or more of the plurality of user on-line dating profiles is associated with a social networking platform.

3. The medium of claim 1, further comprising instructions configured to, in response to determining to allow the first user to communicate with the second user, cause the display of a graphical notification on the graphical user interface of the first electronic device of the first user, the graphical notification indicating that a match exists between the first user and the second user and presenting an option for the first user to communicate with the second user.

4. A system for profile matching, comprising:

an interface operable to:

electronically receive a plurality of user online-dating profiles, each profile comprising traits of a respective user; and

electronically receive a first request for matching, the first request electronically submitted by a first user using a first electronic device;

a processor coupled to the interface and operable to:

determine from the plurality of user online-dating profiles a set of potential matches for the first user; and

cause the display of a graphical representation of a first potential match of the set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

wherein the interface is further operable to receive from the first electronic device of the first user a first positive preference indication associated with the graphical representation of the second user on the graphical user interface, the first positive preference indication associated with a first gesture performed on the graphical user interface, wherein the first gesture comprises a first swiping gesture;

wherein the processor is further operable to cause the graphical user interface to display a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

wherein the interface is further operable to receive from a second electronic device of the second user a positive preference indication regarding the first user;

wherein the processor is further operable to determine to allow the first user to communicate with the second user in response to receiving from the first electronic device of the first user the first positive preference indication regarding the second user and receiving from the second electronic device of the second user the positive preference indication regarding the first user; and

wherein the interface is further operable to:

receive from the first electronic device of the first user a first negative preference indication associated with a graphical representation of a third potential match on the graphical user interface, the first negative preference indication associated with a second gesture performed on the graphical user interface, the third potential match corresponding to a third user, wherein the second gesture comprises a second swiping gesture different than the first swiping gesture;

without allowing communication between the first user and the third user, receive from the first electronic device of the first user a second positive preference indication associated with a graphical representation of a fourth potential match on the graphical user interface, the second positive preference indication

associated with the first gesture performed on the graphical user interface, the fourth potential match corresponding to a fourth user;

receive from a third electronic device of the fourth user a second negative preference indication associated with a graphical representation of the first user; and

without allowing communication between the first user and the fourth user, receive from the first electronic device of the first user a third positive preference indication associated with a graphical representation of a fifth potential match on the graphical user interface, the third positive preference indication associated with the first gesture performed on the graphical user interface, the fifth potential match corresponding to a fifth user.

5. The system of claim **4**, wherein at least one or more of the plurality of user on-line dating profiles is associated with a social networking platform.

6. The system of claim **4**, wherein the processor is further operable to, in response to determining to allow the first user to communicate with the second user, cause the display of a graphical notification on the graphical user interface of the first electronic device of the first user, the graphical notification indicating that a match exists between the first user and the second user and presenting an option for the first user to communicate with the second user.

7. A computer implemented method of profile matching, comprising:

electronically transmitting from a first electronic device of a first user a first request for matching;

causing the display of a graphical representation of a first potential match of a set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

wherein the set of potential matches for the first user are determined from a plurality of user online-dating profiles in response to the first request for matching;

wherein the plurality of user online-dating profiles each comprises traits of a respective user;

transmitting from the first electronic device of the first user a first positive preference indication associated with the graphical representation of the second user on the graphical user interface, the first positive preference indication associated with a first gesture performed on the graphical user interface, wherein the first gesture comprises a first swiping gesture;

causing the display on the graphical user interface of a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match;

allowing the first user to communicate with the second user in response to the first electronic device of the first user transmitting the first positive preference indication regarding the second user and a second user expressing a positive preference regarding the first user;

transmitting from the first electronic device of the first user a first negative preference indication associated with a graphical representation of a third potential match on the graphical user interface, the first negative preference indication associated with a second gesture performed on the graphical user interface, the third potential match corresponding to a third user, wherein the second gesture comprises a second swiping gesture different than the first swiping gesture;

without allowing the first user to communicate with the third user, transmitting from the first electronic device of the first user a second positive preference indication associated with a graphical representation of a fourth potential match on the graphical user interface, the second positive preference indication associated with the first gesture performed on the graphical user interface, the fourth potential match corresponding to a fourth user;

wherein there is a fourth user expression of a negative preference for the first user; and

without allowing communication between the first user and the fourth user, transmitting from the first electronic device of the first user a third positive preference indication associated with a graphical representation of a fifth potential match on the graphical user interface, the third positive preference indication associated with the first gesture performed on the graphical user interface, the fifth potential match corresponding to a fifth user.

8. The method of claim **7**, wherein at least one or more of the plurality of user on-line dating profiles is associated with a social networking platform.

9. The method of claim **7**, further comprising causing the display of a graphical notification on the graphical user interface of the first electronic device of the first user, the graphical notification indicating that a match exists between the first user and the second user and presenting an option for the first user to communicate with the second user.

10. A system for profile matching, comprising:

an interface operable to electronically transmit from a first electronic device of a first user a first request for matching;

a processor coupled to the interface and operable to cause the display of a graphical representation of a first potential match of a set of potential matches to the first user on a graphical user interface of the first electronic device, the first potential match corresponding to a second user;

wherein the set of potential matches for the first user are determined from a plurality of user online-dating profiles in response to the first request for matching;

wherein the plurality of user online-dating profiles each comprises traits of a respective user;

wherein the interface is further operable to transmit from the first electronic device of the first user a first positive preference indication associated with the graphical representation of the second user on the graphical user interface, the first positive preference indication associated with a first gesture performed on the graphical user interface, wherein the first gesture comprises a first swiping gesture;

wherein the processor is further operable to:

cause the display on the graphical user interface of a graphical representation of a second potential match of the set of potential matches instead of the graphical representation of the first potential match; and

allow the first user to communicate with the second user in response to the first electronic device of the first user transmitting the first positive preference indication regarding the second user and a second user expressing a positive preference regarding the first user;

wherein the interface is further operable to:

transmit from the first electronic device of the first user a first negative preference indication associated with a graphical representation of a third potential match on the graphical user interface, the first negative preference indication associated with a second ges-

ture performed on the graphical user interface, the third potential match corresponding to a third user, wherein the second gesture comprises a second swiping gesture different than the first swiping gesture; and

without allowing the first user to communicate with the third user, transmit from the first electronic device of the first user a second positive preference indication associated with a graphical representation of a fourth potential match on the graphical user interface, the second positive preference indication associated with the first gesture performed on the graphical user interface, the fourth potential match corresponding to a fourth user;

wherein there is a fourth user expression of a negative preference for the first user; and

wherein the interface is further operable to, without allowing communication between the first user and the fourth user, transmit from the first electronic device of the first user a third positive preference indication associated with a graphical representation of a fifth potential match on the graphical user interface, the third positive preference indication associated with the first gesture performed on the graphical user interface, the fifth potential match corresponding to a fifth user.

11. The system of claim **10**, wherein at least one or more of the plurality of user on-line dating profiles is associated with a social networking platform.

12. The system of claim **10**, wherein the processor is further operable to cause the display of a graphical notification on the graphical user interface of the first electronic device of the first user, the graphical notification indicating that a match exists between the first user and the second user and presenting an option for the first user to communicate with the second user.

* * * * *

Exhibit D

United States of America
United States Patent and Trademark Office

SWIPE

Reg. No. 4,465,926

Registered Jan. 14, 2014

New Cert. Apr. 7, 2015

Int. Cl.: 9

TRADEMARK

PRINCIPAL REGISTER

TINDER, INC. (DELAWARE CORPORATION)
P.O. BOX 25458
DALLAS, TX 75225

FOR: COMPUTER APPLICATION SOFTWARE FOR MOBILE DEVICES, NAMELY, SOFTWARE FOR SOCIAL INTRODUCTION AND DATING SERVICES, IN CLASS 9 (U.S. CLS. 21, 23, 26, 36 AND 38).

FIRST USE 4-8-2013; IN COMMERCE 4-8-2013.

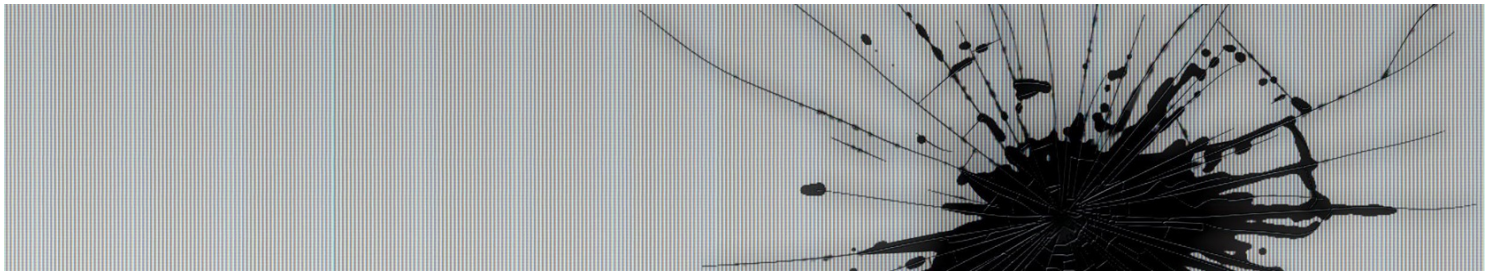
THE MARK CONSISTS OF STANDARD CHARACTERS WITHOUT CLAIM TO ANY PARTICULAR FONT, STYLE, SIZE, OR COLOR.

SER. NO. 85-950,991, FILED 6-5-2013.

Michelle K. Lee

Director of the United States
Patent and Trademark Office

Exhibit E



DIG 101

Introduction to Digital Studies

Swipe Right For Tinder

The dating application Tinder created by Sean Rad, Justin Mateen, and Jonathan Badeen in September of 2012, is a phenomenon that has not only tapped into many social spheres that would normally not utilize online dating, but it also has won over regular web daters. Tinder is simple. To access the app, one only has to download it and connect to their Facebook account. That is it. From this point, the user sets the gender, age range, and distance they want to search within for matches. Tinder utilizes a user's geographical location along with certain algorithms to carry out a search ("Tinder"). Then the fun begins. Once Tinder has executed its search, candidates appear on a user's screen. As journalist Emily Witt puts it, "Depending on your feelings for these people, you swipe left (meaning 'no thanks') or to the right ('yes, please')" (Witt). Some users, like Anna a 22 year-old New York City Tinderer, find the selection part of Tinder's process "a game" due to its slot machine like ease (Sciortino). Tinder seems to have hit a home run, except for one thing that its users keep bringing up: What is Tinder's purpose?

Ann Friedman believes, "Right now, the answer could be 'casual hookups' or 'last minute coffee dates you feel free to flake on'" (Friedman "How Tinder Solved"). Witt views Tinder as a "dating-hookup hybrid" (Witt). Tinder's CEO Rad and CMO Mateen think their product should be seen as an all encompassing relationship finder that could extended beyond romantic relationships: "Married people can use it to find

tennis partners!" (Witt). Tinder's nebulous intentions seem to be its only downside. Nevertheless, many people do not find Tinder's uncertain purpose a problem as evinced by Tinder's currently booming business. Forbes reports that over the past year the app has experienced over 600% in growth and has been download over 40 million times since Rad and Mateen took it public (Bertoni). However, no matter how people decide to interpret Tinder and its implications, the fact remains that it has influenced our society's technology, culture, economic, and ethics.

Tinder's inception began in 2006 when Rad dropped out of the University of Southern California. After leaving school, he tested his entrepreneurship skills, creating one unsuccessful startup and one successful one. The later turned out to be profitable, but unenjoyable to Rad so he sold it for several million dollars and took a position at Hatch Labs, a think tank for new apps. At Hatch, Rad met up with his college friend Mateen (Bertoni). During one of the Lab's "Hackathons," Rad and Mateen began discussing a problem they had both been experiencing: "the frustrations of sending smoke signals [to the opposite sex] through social media" (Witt). The application that would become Tinder was a product of this discussion. Rad and Mateen outlined the product that day, first naming it Matchbox. Soon after this their boss provided them with the funds needed to program the app. Once they created it, Rad and Mateen ended up changing its name to Tinder in order to differentiate it from InterActivCorp's (IAC) popular dating site Match.com.

Once the app was operational, Mateen reached out to his old social contacts at Southern Cal to stir interest in Tinder (Bertoni). Mateen focused on the college crowd who normally would be disinterested in any sort of online dating because he "wanted people to join Tinder not because they saw an ad on Facebook but because they recognized its social value" (Witt). In September of 2012, they launched the app at Southern Cal, and commenced to travel to well known party schools to expedite Tinder's growth. At and around these college's campuses, their representatives would go to "the best campus bars and the most exclusive nightclubs" peddling their product (Witt). During the early stages of Tinder, few people used the app, but these few were extraordinarily attractive. In Los Angeles and around these party schools, Mateen sought out female models and attractive sorority and fraternity members to establish

Tinder's base. Mateen was stocking the pond, if you will. While marketing Tinder, the company's vice president, Whitney Wolfe, went to a nearby Apple Store and let a Genius preview it. She recalled that "his eyes popped out of his head as there many have only been 200 [females on Tinder] but they were 200 of the prettiest girls you've ever seen" (Witt).

Obviously, Tinder has undergone much growth and change since then. In November of 2013, they reported, "users from the 18-24 range have already fallen to 60% of the Tinder population [...] from the 80% at the beginning of this year" (Summers). This is quite a change from the age range Rad and Mateen focused on while the application was in its infant stages. Tinder's attractive and socially adept users spurred on much of its growth during these early stages and gave it its reputation of being a rarefied commodity. As Tinder users become more mainstream and older, its users are bound to become less model status, less Greek, and more normal. As far as statistics go, this demographic shift has not slowed Tinder's growth, but it could eventually hurt its reputation amongst the crowd that brought it to its current level of prevalence. If this shift alienates Tinder's base group, could this, in turn, end the app's popularity and social acceptability?

Prior to Tinder's rise to dominance in the dating app world, no application ruled. Several applications were around that were and still are similar to Tinder. They are Grindr, Blendr, and DOWN (formerly known as Bang with Friends). In 2009, Joel Simkhai created Grindr, a dating app geared it towards gay and bisexual men. The application uses other app users' locations to show their distance from you and orders them in a list with the top names being the closest in proximity. This element of Grindr takes away the popular gaming quality of Tinder's swipe option by giving you a laundry list of possible matches. Once a user selects a profile to view, the chosen profile displays something that sets it apart from Tinder: "Looking for."

Grindr Profiles

This removes some of the ambiguity that Tinderers experience by the person's intent for using the app. However, even with this feature *Vanity Fair*'s Matt Kapp still finds the application's purpose vague. As he puts it "The company seems to be suffering from a serious case of writer's block when it comes to articulating what Grindr is or intends to be. [...] Its logo looks like a cross between a vaudeville mask and something Hannibal Lecter might wear. The company's explanation of the same Grindr strains credulity. 'Here's the deal: The name 'Grindr' was chosen because it embodied the idea of 'grinding' people together in the same way that a coffee grinder grinds coffee beans'" (Kapp).

Grindr's Logo

The combination of Grindr's fearsome logo and uncomfortable name description do create uncertainty. Who wants to use a dating app that cranks and churns a user from nice wholesome coffee bean to a fine powder of coffee grounds under the watchful eye of Hannibal the cannibal? Maybe a really masochist deviant, but most likely this app's success is due to its monopolistic hold over the market of gay dating apps.

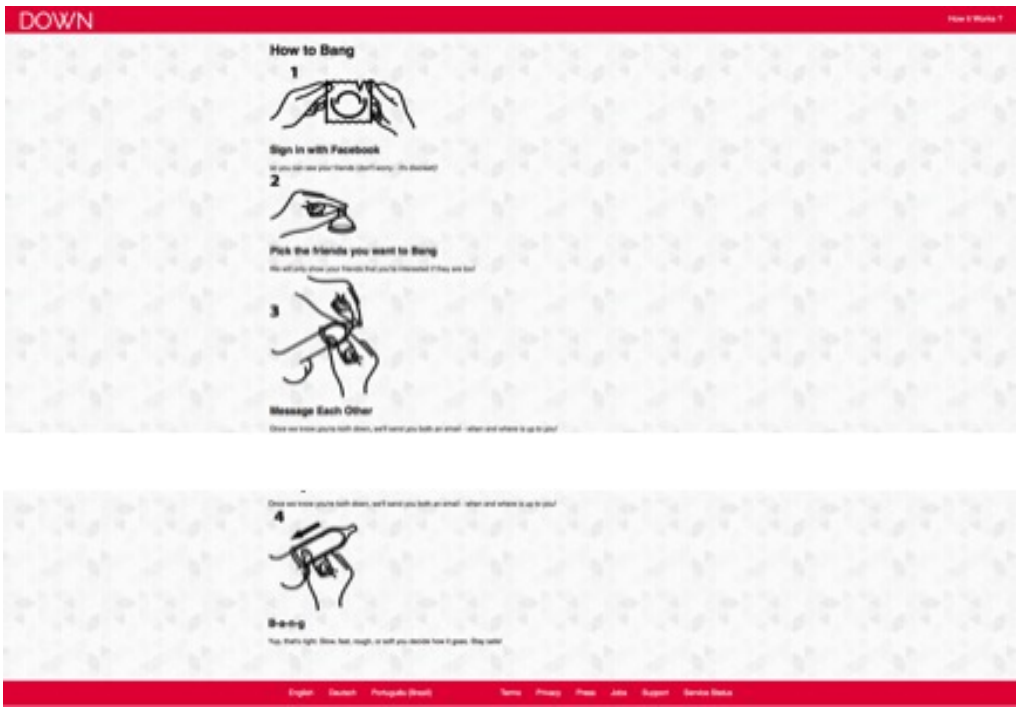
Unfortunately for Grindr, its ambiguous qualities do not end there. Its messaging can cause further confusion. Any user can message another user whenever or however they want. The sender needs no consent from the receiving party to send a message. The message can contain text, no matter how profane, or pictures, again, no matter how profane. The unrestricted content of messages can perplex and maybe even scare off users like 'David' (pictured above) who seek friendship. A nude pic might give 'David' misgivings about the app that markets itself as an all encompassing relationship finder. Because Grindr casts such a wide net by seeking "relationships" (i.e.

friendships, sexual relations, dating) neither 'David' nor the sender is in the wrong (Kapp).

Despite Grindr's struggle to define its purpose, in June of 2012 it had 4.5 million users who each spent about 90 minutes a day searching for mates (Friedman "Overwhelmed"). This enticed Joel Simkhai to create Blendr, the heterosexual equivalent of Grindr. Before Simkhai released Blendr, he claimed its purpose was "finding new friends" using the app's geographical location technology instead of "sex and dating" (Neate). Almost a year later, Friedman gave the app a test drive and immediately felt "cornered [and] overwhelmed" from the instantaneous barrage of messages from random male users (Friedman "Overwhelmed"). She now says she only opens the app "to show it to friends, scrolling through pages and pages of unappealing men in what resembled a masochistic digital age performance-art piece titled 'Why I Am Single'" (Friedman "Overwhelmed"). Friedman experienced what a Northwestern University study on online dating termed "the deluge problem" (Friedman "Overwhelmed"). Whether these incessant "Wassup[s]?" or "Whaat are you up to[s]?" were sent to Friedman in the name of friendship or sex, Blendr, like Grindr, has too little restriction on its content. Unlike Grindr, who dominates the gay dating app niche, Blendr does not have the benefit of controlling the market of heterosexual dating apps therefore blunders can be costly.

One of Blendr's competitors is the app DOWN. DOWN deviates distinctly from Blendr in three different ways. The first and most obvious difference is that DOWN does not utilize the popular geographical locator. Instead, DOWN searches within a user's Facebook friends for possible matches presenting them on a one by one basis. Once a candidate is presented then, similar to Tinder, a user can swipe through the presented candidates. However, DOWN's swipe function upgrades Tinder's. In place of the right, left swipe options, DOWN presents the user with three: Swipe up for a date, swipe down to "get down," and swipe left to decline. This feature removes the ambiguity Tinderers have come to dislike while keeping the fun, game like swipe function. If one user swipes up, but the other user swipes down, then the 'down' user will be notified giving them the option to accept the date or decline the other person altogether. Once both users have agreed to and accepted their parameters and each other, messaging

can begin (DOWN App). However, even though DOWN seems to have taken a firm step in the direction of pinning down the definition of their app that other apps have struggled doing, this might only be a ploy on the behalf of DOWN's creators to separate themselves from their competition. Look at this image of the "How It Works" section of their website:



DOWN's 'How It Works' page

As evinced by the sexual nature presented on the 'How It Works' page, DOWN does not seem to have moved beyond its original intent to simply bang with friends. Once this fact becomes known will this impact its users' perceptions of the app even though they still have the option to date or get down?

Early in 2013, Friedson forecasted that "until a start up comes along that manages to make mobile dating *not weird* by offering women—and the men they want to meet—control, incredible filters, and clarity of mission" no one app will ever dominate the heterosexual market (Friedson "Overwhelmed"). Is Tinder this app?

Tinder's improvement upon many dating sites and some of the apps mentioned above has won over many users. The first thing that many users notice is the app's ease of use. Most dating sites require participants to fill out a detailed questionnaire, which deters many possible candidates from using the site. The normal online dater is a hard

working person who does not have time to date through traditional methods, little less "put the time and effort into meticulously constructing a profile, screening dozens of messages, and going on dates with guys who look nothing like their pictures" (Friedman "How Tinder Solved"). Therefore Tinder is an attractive option whose sole requirement is acquiring access to the user's Facebook account.

Women Tinderers also tend to find its link to Facebook comforting. It provides a degree of authenticity that dating sites cannot. You might be thinking to yourself that faux Facebook profiles are just as common as fake dating profiles, but Facebook is "ruthless about cracking down on fake accounts," which brings a Tinder member closer to legitimacy than they can get via a dating site (Friedman "How Tinder Solved).

Another benefit of Tinder's Facebook alliance is that Tinder displays mutual friends when viewing another's profile. If the viewer feels comfortable enough to ask their friend about the individual being viewed this could add another avenue of accuracy (Friedman "How Tinder Solved). Like on Blendr and other dating websites, most women endure relentless undesired messaging. Tinder solves this problem (as does DOWN) through what Emily Witt calls the "double opt-in," which is "some establishment of mutual interest that precedes interaction" (Witt). This is, of course, when two users both swipe right to each other on the app. The double opt-in not only eliminates the unwanted messaging making the app attractive to users who were scared off from Blendr or regular dating sites, but it also relieves the pressure of real life dating. Now a person does not have to suffer rejections since they know through the app that the person they are going to pick up has already agreed to go out with them. Another bonus for Tinder users, especially women, is that Tinder disables the capability to send pictures through the app. This spares many parties from having to suffer unwanted nude pictures that are prevalent on Grindr and Blendr (Kapp).

To answer Friedman's question, yes, out of all the apps presently available, this is best and most legitimate dating application. Tinder not only provides the above-mentioned benefits to dating, but it also allows the matched duo to (somewhat) organically decide if they are right for each other and leaves some excitement in the form of the unknown to the date by withholding personal information. Also, using Tinder is socially acceptable, unlike dating sites that sometimes equate a user to a spinster: It is

something people are not afraid to do at a party or at a bar to pass the time. In fact, it sometimes becomes a game to play with friends. DOWN is a close second because it eliminates the ambiguity that annoys Tinderers by allowing users to determine its purpose with its upgraded swipe function. But DOWN draws from a limited pool that could have alienating consequences among a user's friends if the date turns sour.

More clearly, Tinder's statistics prove its legitimacy as the top dating app: It has over 1 billion users and receives over 800 million swipes per day (Gannes). More importantly, 80 percent of Tinder users return to the application each week and 65 percent of Tinder users return each day (Wilson). Yet, despite its popularity, some people believe Tinder corrupts dating, while others believe that it is a new exciting way to date online. It is Tinder's innovative design that maintains this large user base and retention rate. Tinder borrows key pieces of design from other applications and incorporates them into a successful application, which has allowed Tinder to make incredible contributions to technological fields.

Tinder Design

Tinder borrowed several design ideas from previous applications and principles of human behavior. After people are matched on Tinder, they can send direct messages to each other through the application. This direct message service is based off of I Message for IPhones (Wilson). Similarly, the profiles on Tinder are based on Facebook

profiles (Wilson). In addition, as with many applications today, Tinder tracks user behavior. All new features in Tinder are created based on tracked information, and all new content that is generated is based on users' previous use of the application. Most importantly, as with other applications, all of the changes made to Tinder are based on user actions (Wilson). By emulating previous applications, Tinder is able to build on and meet user expectations. Along with emulating applications, Tinder emulates human behavior. Just like when people meet in real life, when people meet through Tinder, Tinder starts by presenting them with the face of potential dates and then lets people talk to each other just as happens in real life (Wilson). By creating a design that is similar to real life, Tinder takes advantage of user expectations again; and therefore, makes people more engaged in the application. Learn about some of these design principles from one of the creators himself in the first 4 minutes of this video:

All of these aspects of the design of Tinder that were borrowed from other applications have contributed to Tinder's success, but it is the new aspects of its design that truly have made it successful. A key part of the design of Tinder is its simplicity. Tinder only requires people to swipe right or left to interact with the

application (Wesson). The limited customization options for Tinder profiles also create this simplicity. All of the photographs and interests on Tinder come from Facebook and cannot be created within Tinder (Wilson). This aspect of Tinder adds to the simplicity and also the trust within Tinder. By creating this simple environment, the design of Tinder makes it easy and fast for users.

It's a match

The most important and innovating aspect of the design of Tinder is its Card User Interface. Card User Interfaces are a new framework for presenting information on the Internet through small individual pieces of content (Ajello). According to the creators of Tinder, its design was inspired by decks of cards (Gannes). Cards have been used as a means of communication for a long time. China used cards back in the 9th century, trade cards were used for businesses in the 17th century and in the 18th century, footman used cards to introduce guests. Today, business cards and game cards are used in everyday life. In all of these instances, cards provide fast communication that is easily manipulated (Why cards). The card interface of Tinder is an alternative to the traditional scrolling interface that is used by applications like Facebook and Twitter. The two interfaces can be seen in these videos:

https://www.youtube.com/watch?v=PPIW21xmlQo

There are many advantages to the use of cards in comparison to the use of scrolling interfaces that range from physical to cognitive to computing.

Tinder requires extremely little movement from its user in order to function. Tinder users can hold their phones in one hand and simply touch buttons with their thumbs (Gannes). Today, many daily interactions and activities are completed on phones on small portable screens (Why cards). Because users can use Tinder with one hand, they can use it when they are moving around which drastically increases the chances that people will use the application (Torkington) in commparison, traditional scrolling interfaces require much more effort. Tinder can be used with such little effort that a robot like the Tinderomatic can do it:

Scrolling requires people to scroll, stop, move up, and move down to see information (Gannes). Tinder and its card interface require far less effort than other interfaces, which makes it more appealing to its users. In a culture where speed and ease are paramount, interfaces like Tinder's are advantageous.

Cognitively, the Card User Interface has several advantages over scrolling interfaces. Card interfaces provide a sense of accomplishment to their users because it is possible for the users to reach an end point unlike with scrolling interfaces. Scrolling interfaces go on continuously and never reach an end. Because of this difference, users never feel accomplished (Ajello). Users of card interfaces evaluate one option at a time without distractions. Scrolling interfaces provide many options and distractions. This lack of distractions and options leads to much better choices. Similarly, studies have shown that people actually make better decision when they make snap judgments then when they deliberate over decisions due to adaptive unconscious. Therefore the snap judgments that are encouraged on card interfaces lead to better choices (Torkington). These cognitive advantages of card interfaces allow people to make better decisions and enjoy themselves more than traditional applications.

In addition to the physical and cognitive benefits of card interfaces, card interfaces are advantageous for companies like Tinder because they provide more information through the application. Tinder and other card interfaces create successive repetitive discrete decision moments and each of these moments provides data to Tinder. For each of these decisions, Tinder learns about individuals' likes, dislikes and other preferences. In addition, for each of these dislikes and likes, Tinder tests the time of day of the preferences and whether these preferences vary by time (Ajello). The use of these decisions and the company's response is known as anticipatory computing. Anticipatory computing is the collection of data to predict what users want or need (Torkington). Anticipatory computing is much easier in card interfaces than in scrolling interfaces and is another advantage of card interfaces such as the interface used in Tinder.

The design of Tinder and its card interface has inspired many different applications and has spread to many other fields. Tinder has inspired several other applications to use card interfaces to reach their users. Jelly, an ask and answer application; Swell, a personalized streaming audio feed; Weotta, an activities based application, and Google scholar, an information based application, all use card interfaces (Torkington). Many applications were inspired by Tinder, which can be seen in this slideshow: http://www.pastemagazine.com/articles/2014/08/tinders-swipe-design-revolutionizing-search-one-ap.html

In addition, applications that currently use scrolling, such as Facebook and Twitter, are

transitioning to card interfaces (Why cards 14). The design of Tinder has had a large impact on applications such as these examples, and has also had an impact in other fields. One field that Tinder has begun to influence is marketing. Marketers can apply the ideas behind this design, by creating advertisements that allow people to click right to choose something they like or to click left for another offer. Currently most advertisements only offer people one option; and therefore, if people do not like that option, they have to search for all of the other options. One company that has applied the design of Tinder to their advertisements is Buffer. This company is a social sharing service that allows people swipe right or left for suggestions (Wesson). https://bufferapp.com Another aspect of marketing that has been inspired by Tinder and its design is Pitcher. Pitcher is an application that allows people to search for promotions companies. To complete this search, people input a campaign type, brand, and fee and then swipe left or right as they search through companies (Johnston). This video demonstrates how Pitcher works: http://lovintrends.com/tech/this-app-is-tinder-for-marketeers.

Tinder's design has inspired other applications to follow suit and has inspired a variety of fields to adapt its swipe right, swipe left basic principle.

Initially, Tinder appears to be incredibly simple, but in reality its design is the perfect balance of old and new ideas that entice users and that has inspired other application design. Tinder is one of the first applications to use a Card User Interface and much of its success must be attributed to this interface, the simplicity of Tinder, and the key pieces of the design of Tinder that were borrowed from other applications. The design of Tinder has been replicated in many other applications and fields and may be Tinder's greatest legacy.

Not only has Tinder's design influenced a number of user interfaces, but it has also transformed our dating culture. Before looking at Tinder's influence on current dating culture though, it is important to outline how the Western culture defines dating. Traditionally, dating was seen as an opportunity for two parties to set aside "quality time together" in order to get to know one another on a deeper level (Bogle 163). This script generally ended with the goal of a committed relationship. Additionally, the role of sex in the traditional dating script was not as critical compared to that in current hookup culture. Sex generally came later in the relationship after a period of getting to

know one another, but the extent of sexual encounters during the dating era was much more limited in comparison to dating in this era, as well (Bogle 159). In contrast, the modern definition of dating blurs this line between traditional dating and the hookup culture.

http://video.foxnews.com/v/2405098206001/the-hook-up-culture/#sp=show-clips From 1:40 to 3:30 in this video, Fox News Discusses Hookup Culture

Contemporary relationships often progress at a much quicker speed than relationships in the traditional dating era. For example, the hookup script does not require or encourage getting to know someone before engaging in sexual encounters (Bogle 159). Sexual encounters are more socially acceptable outside of serious, committed relationships than previously, thus they occur earlier more frequently. Congruently, relations are often much more casual because the level of emotional connection and intimacy is not as great of a priority (Bogle 163). Traditional dating sentiments are still present though, such as the importance of connecting with others, which leaves the current dating standards a little unclear. Consequently, new dating applications such as Tinder seek to more clearly define the current dating culture.

Tinder's innovative design has initiated a dating revolution. Largely due to convenience, individuals increasingly turn to social media technologies to form connections with others (Lisi). But unlike more dated websites such as Okcupid and Match.com, Tinder intends to mimic real life interactions through virtual interfaces with its card user technology. Tinder upholds the idea that people want to establish connections with individuals they would not otherwise encounter, while simplifying the dating process even more with its basic interface. Tinder's design eliminates the initial face-to-face meeting and awkward small talk while still making that first physical impression (Lisi). This gives users a sense of comfort knowing they have less to lose, which makes them a little more likely to continue using the app.

The Science of Tinder: game of love without the pressure video

The swipe left-swipe right technology has ultimately turned dating into just another game. By transforming online dating into a game, Tinder changes how individuals engage with the application and the dating process. When you make a match the app literally gives you the option to send a message or to "keep playing." Additionally, making a match is like earning a point. The more points you have the more options you have, and the more likely you are to win the game of love. This level of success while using the app often fosters more optimism regarding dating, much like successful decisions in the game playing experience encourage players to continue (SoulPancake). As a result of the game-play feel of Tinder, users put less pressure on the dating experience, making it more fun and desirable to engage in.

In the following video, Huffington Post talks about why Tinder is so addictive
http://www.huffingtonpost.com/2013/04/09/tinder-dating-app_n_3044472.html

By making matches based on the user's desire and/or ability to swipe left or swipe right, Tinder arguably devalues personal connections. Because Tinder is such a time saver in the dating process, time is not spent developing detailed profiles and strong connections based on personality and interests. Pass judgements are made based on physical appearance alone, just like they would in the bar setting, but the important small talk is eliminated. Accordingly, Tinder has established a stronger focus on the casual dating structure. Users make their initial decision to like another user based on physical attraction. Consequently, users regularly go on dates with the expectation of physical contact, which makes hookups more common as a result (Ryan). According to Aaron Smith and Meave Duggan, users are also less likely to settle down in a relationship due to the large number of dating options the app provides (21). Therefore, Tinder provides an extension of the hookup culture largely due to the shallow circumstances under which Tinder users generally establish connections (Ryan).

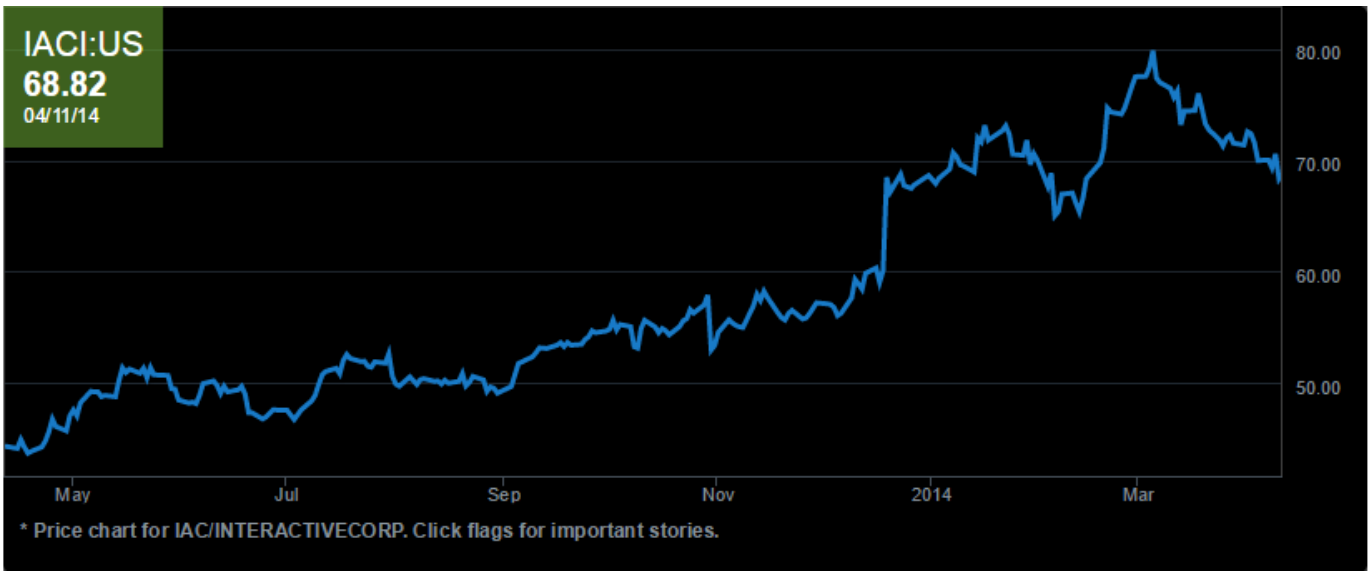
Crazy Stupid Love, bar/hookup conversation in above video

This extension of hookup culture brings with it another component of the Tinder dating revolution: that men and women are now on a more equal playing field. In both the traditional dating era and hookup culture, men predominantly hold power in determining whether or not a connection is actually pursued (Bogle 173). Tinder questions who is in control by giving women more power to indicate interest with like swipes and to further initiate flirtation through the app's messaging feature. This allows women to be more open to dating without the pressure of serious commitment, as well. As a result, both men and women can pursue more casual relationships without as much pressure or fear of rejection because the casual dating style of hookup culture is what the design of Tinder ultimately encourages (Ryan).

The app's general appeal to a wide range of the population provides a vast amount of possibilities for Tinder's future development and modification. Although the number of people on Tinder at the moment is not released by the owners of the company, it is recorded that more than two billion matches have been made in the time that Tinder has been public (Crook). Whether it is the design behind the app, its origins or its cultural implications, Tinder has become a powerful and influential application. However, it's economic pursuits and future monetization is an issue that has been rarely addressed by the CEO's or by IAC. The issue of monetization and Tinder's economic development has created both anxiety or just expectancy equally in users as in the media.

Tinder, as mentioned before, emerged from an incubator, Hatch Labs, that belongs to InterActiveCorp, the same corporation that owns sites such as Match.com and OKCupid (Crook). Different from the other dating sites, Tinder is a free app that has no method of collecting payments at the moment from its users. It has much potential though, as multiple scholars and journals have addressed the future of the app and why the owners have not seeked profit from the high-transited application. The New York Times in September, reported that "in 2013, consumers paid $2.2 billion worldwide to find a mate…and the overall market is expected to continue to grow at about 5 percent a year over the next five years" (Kaufman, Isaac). Thus, the question that arises is: why is Tinder not collecting money right now?

In 2012, before the app went public in both Apple and Android stores, venture capitalist Chamath Palihapitiya bought a ten percent share of the startup company, at an undisclosed price. It is rumored that he paid 500 million dollars for the share, therefore raising the question of whether an app that is not gathering any money is worth that type of transaction. Although Chamath tweeted that the transaction was not for that value, it is unsettling to discover an app that is currently generating losses to IAC be valued by Bloomberg at one billion dollars (Bloomberg). The ten percent share was bought back by IAC after the application went public, investing a large amount of money in an app with no revenue. However, this is all a plan for IAC which has been reported to be looking for a population base rather than an economic profit. IAC representatives state that they "are in a fortunate position" as they control the "internal sources of funding", emphasizing that they don't "need to raise outside capital" because it's OK to be operating at a loss (Lawler). The ultimate plan from the corporation, is to hook "a new generation of Millennials on the idea of finding love (or at least casual sex) online. In other words: Start them on Tinder, and they'll end up paying for Match" which is another of IAC's dating website (Businessweek).



(picture shows the price chart for IAC, taken from Bloomberg.com)

The dating game seems to be controlled in its majority by IAC, which is currently valued at $5.68 billion (Bloomberg). The corporation, however is moving towards monetization, and data suggests that "Tinder could generate as much as $180 million in revenue in 2015" (Lawler). The method by which the app is going to delve into the

world of purchases is by creating a premium version for its users. Not only is IAC funneling customers to other dating sites, installing a loop between the customer base and the prospective product, but it is planning to "enhance" the already revolutionary app. The launch of Tinderplus was expected in November, though there is no information as to why this was not possible. After rejecting the possibility of including ads in the service, messaging-ad ons or in-app purchases, Tinder has turned to the premium functionality on appealing to even more isolated and "dating game-ridden" individuals (Thomas, Mohsenin). Tinder plus works this way:

There is not a lot of information about the new feature, though the video clearly emphasizes two functions: undo and passport. The first one allows users to undo left swipes, removing the possibility of a snap judgement that was previously discussed. The second feature passport, removes the safety-net of geolocation. By exploring people in other cities, Tinder is opening up to a whole new game: find people wherever they are, and perhaps creating, or iniciating a relationship. The price of the new app is not displayed yet, though DailyMail argues that the app will first "rollout in the UK, Brazil and Germany" (Griffith). Since the feature is not yet released, and might be first

exposed in a trial version, the "company will test how much it can charge", supposedly ranging from 99 cents two a montly subscription of 20 dollars (Griffith). Once this feature is launched, we will be able to examine the repercussions on the dating game, which at the moment are unthought of.

Additionally, Tinder is not only making money for IAC and the CEO's, but it has promoted the creation of third-party services that appeal to the Tinder clientele. An example is the website Tinderdoneforyou.com. This video exposes the idea behind the service.

Although it is uncertain how accurate this website is, or whether it is legitimate in its services, this is a prime example of the far-fetched and perhaps inconceivable effects

of Tinder on the economy. Not only has Tinder evolved from having ten employees a year ago, to forty employees at the moment – without monetization separate from inversions -, but it has been a gateway for others companies' economic growth (or in the case of Tinder Done For You, existence). With a 100% free consultation, the website promises to use Blake Jamieson's hack code to boost the amount of swipe rights that people get (Rogue).

Imagine What It Would Be Like
To Have A Guaranteed Supply Of Dates On Tap

You'd never again need to swipe right endlessly just to get a single decent Tinder match…

You'd never have to wonder why the women you like suddenly stop responding to you messages.

You'd never have to spend another lonely Friday night again…

In fact, when you have full access to the power of Tinder, you will experience the surge of power you deserve when you are able to always have a date when you want…

You'll be the envy of your friends when you always seem to show up with the most attractive woman in the room.

And when you're not meeting up with one of the amazing new women in your life, you'll be doing the things you love instead of feeling permanently attached to your cell phone screen.

(image was taken from Tinderdoneforyou.com advertisements)

By expanding services and gathering direct revenue from users, Tinder is monopolizing its client-based approach by approximating a service that could mimic prostitution rather than the dating service it originally intended. In other words, if you have to pay for the service, you are basically paying someone to go on a date – or to casually have sex – and although it is not directly the person you are going in a date with, the payment process shifts the meaning behind it all approximating the basic behavior behind prostitution. Monetization possibilities could change the appeal of the service, but it could also enhance the circle of progression where IAC is responsible for a

clientele that sees dating as a jump from Tinder, to Match and then OKCupid, not something that should be physical and personal.

To register as a user of Tinder, you are asked to sign-in using your Facebook login. Depending upon the privacy settings of your public Facebook profile, the following information will be provided to Tinder during registration: "your email address, interests, likes, gender, birthday, education history, relationship interests, current city, photos, personal description, friend list, and information about and photos of your Facebook friends who might be common Facebook friends with other Tinder users" (Privacy Policy). Tinder's privacy policy categorizes information gathered from Facebook as information you provide. However, a survey consisting of 256 Facebook users distributed across middle school and high school students reveals that "Having a bad experience [on Facebook] was significantly correlated with privacy knowledge and information control (use of the privacy settings)" (Christofides et al. 725). A bad experience, for the purpose of this study, is defined as bullying/meanness, unwanted contact, exposure/unintentional disclosure, and misunderstandings.

This study reveals that most young students have little knowledge of the privacy settings on Facebook, which correlates to having a bad experience. The possibility of a bad experience—specifically unwanted contact—could increase by disclosing Facebook profiles to Tinder. Although this is information you provide, users could be unaware of their privacy settings on Facebook and exactly what they're sharing with Tinder. Christofides et al. also found that "undergraduate students are willing to forgo their privacy for the sake of participating more fully in their social environment." Asking users to sign-in with their Facebook login is perhaps manipulating a desire for social inclusion to obtain user information. This seems plausible given that Tinder already automatically collects "your IP address, device ID and type, your browser type and language, the operating system used by your device, access times, your mobile device's geographic location while our application is actively running, and the referring website address" (Privacy Policy). Thankfully, there are some ways to protect your Facebook privacy from Tinder.

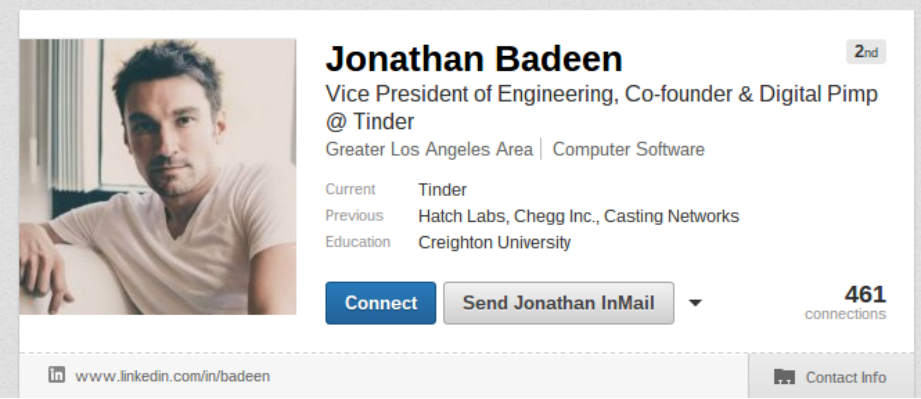
The information collected by Tinder is used to improve their product and services. However, before January 2014, Tinder could be used by anyone with decent

programming skills to find out the exact location of any user. Include Security, specializing in security assessments of applications, discovered in October 2013 that using basic triangulation and the Tinder API would generate a location within 100 ft. of the user. To show just how easy this was, Include Security created the web application TinderFinder. TinderFinder demonstrates the vulnerability of user privacy on Tinder through their Facebook login.

Include Security's FAQ website states that, "While our Proof of concept attack uses Facebook authentication to find the user's Tinder id, Facebook is NOT needed to exploit this vulnerability, and no action by Facebook could mitigate this vulnerability" (Veytsman). The vulnerability lasted between 40 and 165 days (depending on who you ask), without any public notice from Tinder: "Cabetas says that his company [Include

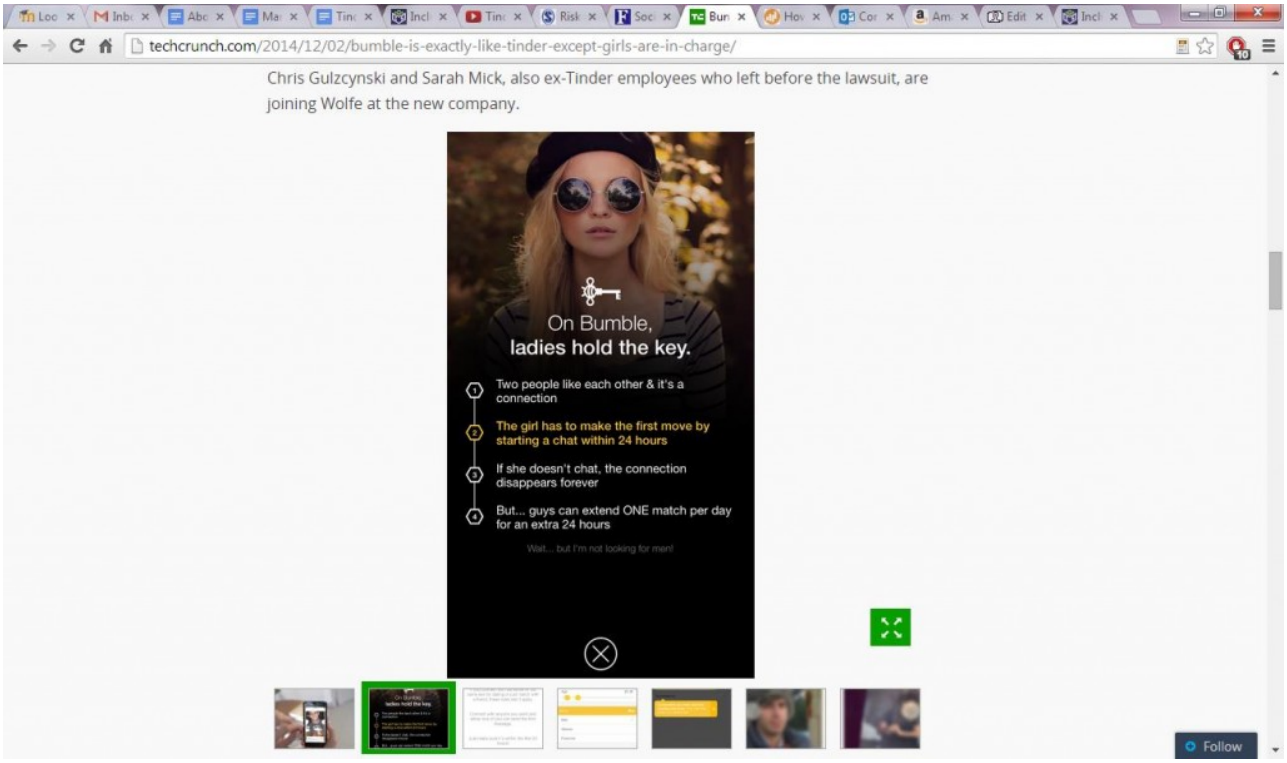
Security] informed Tinder of the vulnerability on Oct. 23, 2013, and did not get a meaningful reply until Dec. 2, when a Tinder employee asked for more time to fix the problem. The hole was patched at some point before Jan. 1, 2014, Cabetas says" (Summers). Tinder never publicly acknowledged the issue or returned emails from Include Security about the security vulnerability (Veytsman). Tinder's shadiness in addressing this issue leaves one to question the inner-workings of the company. Even more concerning, is that the former vice-president of marketing sued the company for sexual harassment and discrimination.

Whitney Wolfe, former vice-president of marketing, settled with Tinder for just over $1 million after suing them. Wolfe claims that former chief marketing officer Justin Mateen (who she dated), called her a "joke," a "gold digger," a "disease," a "whore," and a "slut" who needed to be "watched" if she were to keep her job (The Truth About Tinder). Tinder CEO Sean Rad, Wolfe alleged, dismissed her pleas for help as dramatic. Manteen was fired indefinitely from the company; however, a sexist culture at Tinder remains evident in social media. The LinkedIn profile of Tinder co-founder, Jonathan Badeen, lists his title as "Vice President of Engineering, Co-founder & Digital Pimp @ Tinder" (Bercovici).



LinkedIn Profile of Tinder Co-founder

Fortunately, for women looking to work for a dating app, Wolfe and a group of former Tinder employees launched the app Bumble. Bumble is "exactly like Tinder except girls are in charge" (Crook).



Bumble App

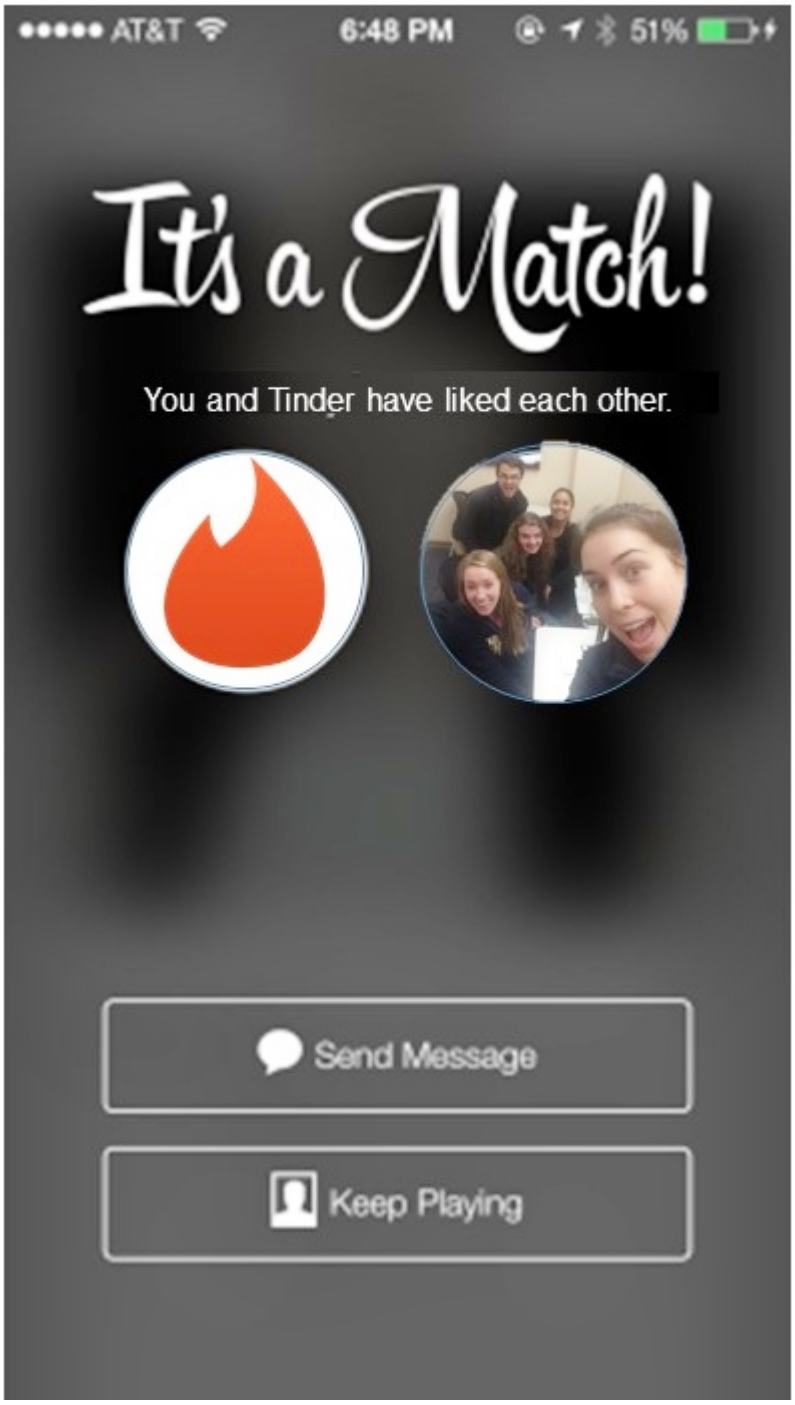
The fact that Bumble is almost identical to Tinder displays the genius of Tinder's concept and design. That being said, Tinder has opened up several new areas of concern in terms of the privacy and ethics of dating applications. Bumble is expanding upon Tinder's basic concept, but includes a mandatory chat component initiated by the woman. This feature provides additional security and power to the user, while suggesting the vulnerability of women using Tinder. Although Tinder's workplace and gender equality leaves something to be desired, Tinder is an excellent starting point for the future improvement of dating applications.

Tinder has had a large impact in technological, cultural, economic and ethical fields, and it continues to grow as an application and a dating service. Tinder has changed the way other websites and applications interact with their users and the way millennials interact with each other. Each of these changes has brought about new questions concerning economics and ethics. Individuals differ in their opinion and use of Tinder, some view it as a shallow hook up application and some view it as a new innovative way to meet people. Despite these contrasting judgements, people cannot debate that Tinder is incredibly influential. Tinder reaches millions of people today, and because of this widespread impact, it cannot be dismissed.

About

In order to thoroughly immerse ourselves in the Tinder culture, group member Brooke Curtin downloaded the Tinder app which linked her personal Facebook profile to the online dating experience. After signing into the account, we explored the Tinder interface and made several swipes and matches. From there, we looked at various news reports regarding Tinder and selected different topics of interest to analyze this subject matter. Group members individually researched their chosen topics by looking at newspaper articles, scholarly journals and other sources discussing the impact of Tinder on the fields of technology, culture, economics and ethics. To prevent overlap, we each created outlines of our planned contributions to the project and discussed what would be in each of our sections. After some discussion and changes, we wrote our sections and combined them into one cohesive analysis of Tinder and its social implications. We made these decisions so that our project was based on reliable sources that look at Tinder from a variety of perspectives. In addition, we decided to outline and discuss our topics before the writing of our final project to avoid overlap and so that we were able to cover all aspects of Tinder and its influences. We chose to research and write about Tinder for our final project because all of the members of our group did not have any experience with Tinder and we were intrigued by it and its rising popularity.

Each of our group members played an integral role in creating our final project by writing about a section of Tinder that most interested them. Hagood wrote the introduction by researching Tinder's origins and the background of similar applications. Brooke investigated the reasons behind the success of the design of Tinder and the influence of the design on both other applications and other fields. Kaity explored the cultural implications of the Tinder app by analyzing how the application has revolutionized dating. Maria examined the economic implications of the Tinder application by looking at its monetization policies, it's further developmental possibilities and what this means to its client base. Cater concluded the analysis by discussing the vulnerability of user privacy and personal information via Facebook login. She also looked at the sexist nature of the Tinder workplace and the app itself by comparing it to the revival app Bumble.



Works Cited:

"About Us." *Tinder Done For You*. N.p., 2014. Web. 07 Dec. 2014.

Ajello, Tom. "Good User Experience Design: UX Can Do What, Now?" *Makeable*. DISQUS, 2014. Web. 05 Dec. 2014.

Bercovici, Jeff. "Social Media Shows Hints Of A Sexist Culture At Tinder." Forbes. Accessed December 5, 2014.

Bertoni, Steven. "Exclusive: Sean Rad Out As Tinder CEO. Inside The Crazy Saga." *Forbes*. Forbes Magazine, 4 Nov. 2014. Web. 05 Dec. 2014.

Bogle, Kathleen A. *Hooking Up : Sex, Dating, And Relationships On Campus*. New York: New York University Press, 2008. *eBook Academic Collection (EBSCOhost)*. Web. 4 Dec. 2014.

Booton, Jennifer. "Dating App Tinder Set to Explode to $1 Billion." *MarketWatch*. N.p., 5 Sept. 2014. Web. 07 Dec. 2014.

Bosker, Bianca. "Why Tinder Has Us Addicted: The Dating App Gives You Mind-Reading Powers." Online video clip. *Huffington Post*. Huffington Post, 9 April 2013. Web. 7 Dec. 2014.

Christofides, Emily, Amy Muise, and Serge Desmarais. "Risky Disclosures on Facebook The Effect of Having a Bad Experience on Online Behavior." Journal of Adolescent Research 27, no. 6 (November 1, 2012): 714–31. doi:10.1177/0743558411432635.

Colao, JJ. "Not Just For Hookups: Tinder Looks To Conquer Business Networking." *Forbes*. Forbes Magazine. 4 August 2014 Web. 8 Dec. 2014.

"Crazy Stupid Love – Funny Bar Scene – Ever Seen Karate Kid?" Online video clip. *Youtube.* Youtube, 27 Oct. 2013. Web. 5 Dec. 2014.

Crook, Jordan. "A Brief History Of Tinder." *TechCrunch*. AOL, 6 June 2014. Web. 8 Dec. 2014.

Crook, Jordan. "Bumble Is Exactly Like Tinder Except Girls Are In Charge." *TechCrunch*. Accessed December 5, 2014.

Deck of Cards. Digital image. *ItemBrowser4*. ItemBrowser4, 2014. Web. 05 Dec. 2014.

"DOWN App: FAQ." *DOWN*. N.p., 2014. Web. 07 Dec. 2014.

Friedman, Ann. "How Tinder Solved Online Dating for Women." *The Cut*. New York Media LLC, 10 Oct. 2013. Web. 04 Dec. 2014.

Friedman, Ann. "Overwhelmed and Creeped Out – The New Yorker." *The New Yorker*. Conde Nast, 26 Feb. 2013. Web. 06 Dec. 2014.

Gannes, Liz. "For Mobile Apps Like Tinder, Cards and Swipes Rule the Day." *Recode*. Revere Digital LLC, 14 Mar. 2014. Web. 05 Dec. 2014.

Google Developers. "Google I/O 2014 – How Tinder caught fire & how your app can too: Sean Rad." *Youtube.* Youtube, 11 July 2014. Web. 5 Dec. 2014.

Griffiths, Sarah. "Catch the One That Got Away! Tinder to Launch 'undo' Button to Stop Missed Connections – but It Could Cost $20 a Month."*Mail Online*. Associated Newspapers, 06 Nov. 2014. Web. 07 Dec. 2014.

Grindr Logo. Digital image. *EILE Magazine*. WordPress.com, 19 Sept. 2013. Web. 8 Dec. 2014.

Grindr User Profile. Digital image. *Vanity Fair*. Conde Nast, 27 May 2011. Web. 8 Dec. 2014.

Guen, Maximilian, and Mattew K. Firpo. "Introducing Tinder Plus: The Next Level of Tinder." *Vimeo*. Tinder, Nov. 2014. Web. 07 Dec. 2014.

How It Works. Digital image. *DOWN App*. N.p., 2014. Web. 8 Dec. 2014.

Johnston, Louise. "This App Is Like Tinder For Marketeers." *Lovin Trends*. DISQUIS, 11 Sept. 2014. Web. 05 Dec. 2014.

Joyce, Brittany. "Tinder's Swipe Design, Revolutionizing Search One App at a Time."

Kapp, Matt. "Grindr: Welcome to the World's Biggest, Scariest Gay Bar." *Vanity Fair*. Conde Nast, 27 May 2011. Web. 6 Dec. 2014.

Kaufman, Leslie, and Mike Isaac. "IAC, Owner of Match and Tinder, Makes Moves in Online Dating." *The New York Times*. The New York Times, 14 Sept. 2014. Web. 07 Dec. 2014.

Lawler, Ryan. "Tinder Is Raising From Benchmark At A Valuation North Of $750 Million." *TechCrunch*. AOL, 10 Sept. 2014. Web. 07 Dec. 2014.

Lisi, John. "Does Tinder Transform Dating Culture?" *PopMatters*. PopMatters, 4 Nov. 2013. Web. 3 Dec. 2014.

Mohsenin, Jackson. "Quora." *How Will Tinder (app) Monetize?* –. N.p., 22 Aug. 2013. Web. 07 Dec. 2014.

NetworkWorld. "How to Sort Facebook's News Feed Chronologically on Mobile." *Youtube.* Youtube, 23 May 2013. Web. 5 Dec. 2014.

Paste Magazine. Paste Media Group, 1 Aug. 2014. Web. 05 Dec. 2014.

Peckham, James. "How To Keep Your Tinder Private From Your Facebook." Know Your Mobile. Accessed December 8, 2014.

"Pitchmate-Tinder for Marketers." Online video clip.Woedend. Vimeo, 8 Sept. 2014. Web. 5 Dec. 2014.

"Privacy Policy." Tinder. N.p., n.d. Web. 07 Dec. 2014.

Rhodan, Maya. "Soon You Will Be Able To Undo Your Accidental Left Swipe On Tinder." *TIME*. N.p., 5 Nov. 2014. Web. 7 Dec. 2014.

Rogue, Nick. "TinderDoneForYou.com." *YouTube*. YouTube, 11 June 2014. Web. 07 Dec. 2014. "Tinder – It's How People Meet." *Tinder*. N.p., n.d. Web. 07 Dec. 2014.

Ryan, Rachel. "The Pitfalls of Popular Online Dating Sites from Tinder to OkCupid." *Huffington Post*. Huffington Post, 19 Feb. 2013. Web. 3 Dec. 2014.

Saitto, Serena. "IAC Buys Back 10% Stake in Mobile Dating App Tinder." *Bloomberg.com*. Bloomberg, 11 Apr. 2014. Web. 07 Dec. 2014.

Savva, Peeta. "The Real Reason Tinder is So Addictive...is Why Cards Are the Future of the Web." *Youtube.* Youtube, 9 Sept. 2013. Web. 05 Dec. 2014.

Sciortino, Karley. "Taking a Swipe at the Tinder Dating App." *Vogue*. Conde Nast, 9 Oct. 2013. Web. 05 Dec. 2014.

"Sign in to Start Sharing with Buffer." *Social Media Management*. Buffer, 2014. Web. 05 Dec. 2014.

Sink, Andrew. "Tinder-O-Matic." *Youtube.* Youtube. 1 Sept. 2014. Web. 05 Dec. 2014.

Smith, Aaron, and Maeve Duggan. "Online Dating & Relationships." *Pew Research Center's Internet & American Life Project*. Pew Research Center, 21 Oct. 2013. Web. 7 Dec. 2014.

SoulPancake. "Tinder: The Science of Love." *Youtube.* Youtube, 23 June 2014. Web. 5 Dec. 2014.

Summers, Nick. "Dating App Tinder Catches Fire." *Bloomberg Business Week*. Bloomberg, 05 Sept. 2013. Web. 05 Dec. 2014.

Summers, Nick. "New Tinder Security Flaw Exposed Users' Exact Locations for Months." BusinessWeek: Technology, February 19, 2014.

"The 'Hook up' Culture." Online video clip. *Fox News*. Fox News, 23 May 2013. Web. 5 Dec. 2014.

"The Truth About Tinder and Women Is Even Worse Than You Think." BusinessWeek: Technology, July 2, 2014.

Thomas, Carther. "Mobile App Monetization – How I'm Pulling In $125 ECPM." *IPhone App Marketing*. N.p., 30 June 2012. Web. 07 Dec. 2014.

TINDER DATING APP Facebook. Digital image. *Huffington Post*. Huffington Post, 09 Apr. 2013. Web. 05 Dec. 2014.

"Tinder Dating App Review." *Datelicious*. N.p., 18 Nov. 2013. Web. 06 Dec. 2014.

TinderFinder – Tinder Privacy Vulnerability Demo, 2014.

TindeInLine. Digital image. *Bits*. The New York Times, 26 Feb. 2013. Web. 05 Dec. 2104.

Torkington, Janel. "Small Data: Why Tinder-like Apps Are the Way of the Future." *Medium*. N.p., 18 Mar. 2014. Web. 05 Dec. 2014.

Veytsman, Max. "Include Security Blog | As the ROT13 Turns....: How I Was Able to Track the Location of Any Tinder User." Accessed December 5, 2014.

Wesson, Matt. "The Strange Significance of Tinder." *Medium*. N.p., 6 June 2014. Web. 05 Dec. 2014.

"Why Cards Are the Future of the Web – Inside Intercom." *The Intercom Blog*. Intercom, 2014. Web. 05 Dec. 2014.

Wilson, Mark. "4 Design Lessons From Tinder, The White-Hot Dating App." *Co.Design*. Fast Company, 26 Mar. 2013. Web. 05 Dec. 2014.

Witt, Emily. "Love Me Tinder." *How the Tinder App Became a Success*. Conde Nast, Feb. 2014. Web. 05 Dec. 2014.

Works Consulted:

Alderton, Dolly. "Getting Down: Hands-on with the Tinder for F*** Buddies." *Gentleman's Quarterly*. Conde Nast, 20 Jan. 2014. Web. 07 Dec. 2014.

"Blendr – Dating App Review." *Datelicious*. N.p., 2 Nov. 2014. Web. 06 Dec. 2014.

Bilton, Nick. "Tinder, the Fast-Growing Dating App, Taps an Age-Old Truth." *The New York Times*. New York Media LLC, 29 Oct. 2014. Web. 5 Dec. 2014.

Ha, Anthony. "Down, The App Formerly Known As Bang With Friends, Relaunches On The iPhone." *TechCrunch*. AOL, 23 Nov. 2013. Web. 07 Dec. 2014.

Lapowsky, Issie. "Tinder May Not Be Worth $5B, But It's Way More Valuable Than You Think." *Wired.com*. Conde Nast Digital, 09 Apr. 2014. Web. 05 Dec. 2014.

LeJacq, Yannick. "'Bang With Friends' Is Back on App Store, Now Called 'Down'" *NBC News*. NBC Universal, 30 Aug. 2013. Web. 06 Dec. 2014.

Neate, Rupert. "Welcome to Blendr, the Straight Dating App following in Grindr's Footsteps." *The Guardian*. Guardian News and Media, 12 Sept. 2011. Web. 6 Dec. 2014.

Shontell, Alyson. "TIME TO GET DOWN: Casual-Sex App 'Bang With Friends' Is Back." *Business Insider*. Business Insider, Inc, 25 Oct. 2013. Web. 06 Dec. 2014.

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Categorized in: Final Projects

December 9, 2014 Dr. Sample Comments are off for this post.

Exhibit F

GROWTH STUDIES

Tinder

What Ignited Tinder's Explosive Growth?

The location-based dating app Tinder was founded on September 1st, 2012, and launched the following October out of Hatch Labs, IAC's "innovation sandbox." IAC is the parent company that owns much of Tinder. Since the launch, the Tinder app has become a phenomenon. By January 2014, the app boasted more than 10 million users. [1] By December of 2014, the app had been downloaded more than 40 million times with users swiping 1 billion times per day. [23] On February 3rd, during the IAC earnings call, the company reported that Tinder saw 100% year over year growth in monthly active users (MAU). [24] Like many things with Tinder, it's valuation is one that's part myth and part truth. In the Spring of 2014, several sources reported that IAC dropped $500 million to buy another 10% of Tinder from Chamath Palihapitiya—valuing the company at $5 billion. Not long after the story was picked up, Tinder CEO, Sean Rad cited the report as "meaningfully incorrect," [15] while estimates from Re/Code put the value of the company at the time at $550 million. [25] Later in 2014, rumors were swirling about additional investment in Tinder at $1 billion or more. [26] However, in December, IAC Chairman and Senior Executive Barry Diller reported that the valuation is irrelevant because the company is not a venture backed startup. [27] Beyond its breakout success in the highly-competitive dating space, Tinder has made waves both as a pioneer for mobile user experience (with it's swiping paradigm) and via its sordid upper management scandal. In this growth study we're going to focus on the growth engine that made the company so successful and leave a deep dive into the management scandal and sexual harassment lawsuit—that forced their CMO and co-founder Justin Mateen to resign and early employee Whitney Wolfe to leave—for other sites with much deeper journalistic and investigative chops. If you want to read more on the turmoil on the management team and lawsuits read more here. But in a world of heavily funded and popular services like Match.com, Plenty of Fish, eHarmony and others, how did this upstart breakout and totally reinvent online dating for the mobile-first set? In this growth study we'll look at:

Early Traction

- Creating an addictive app through a novel and gamified user experience that capitalized on new social norms toward casual dating
- Building a robust marketplace of supply and demand through collegiate greek systems
- Driving network effects through college- by-college launches

Today's Growth Engine

- Word of mouth and press that continues to drive growth
- Product extensions that make the application accessible to more users outside of just singles looking to connect
- Product features that increase re-engagement and retention
- International expansion
- Monetization

Introduction

Tinder is a mobile dating application that matches prospective partners with one another through a novel interface and interaction design. Users of the app are presented with potential dates made up of suggestions from their friend's social networks and other people using the service from the surrounding locale. After viewing a profile the user can either swipe left, dismissing the potential partner, or swipe right, suggesting interest in starting a conversation with the person. If the other person also swipes right on that user during their time using the app, the two people are "matched" where they can start a dialog, coordinate a date, etc. When a user opens Tinder, the app uses their last known location along with information regarding shared friends (via Facebook), interests, and networks to generate potential matches. The more a user engages with Tinder, the better the app's potential matches become.

Image via the daily dot

Unlike other companies studied here on GrowthHackers.com, Tinder is not a traditional startup. Instead Tinder is backed by IAC, the same company who owns dating mega-company, Match.com. Tinder grew out the company's mobile "innovation sandbox" Hatch Labs—which was founded in March 2011 and subsequently shut down in February 2013. [2] Most people think of Tinder as a startup, and the confusion works to Tinder's advantage and may even be somewhat intentional, at least according to Sam Yagan, CEO of IAC's Match.com and OkCupid. As Yagan explained in June 2013:

> *"We keep it sort of on the DL because it's much sexier for it to be a totally fresh startup that has nothing to do with the market leader. But we're constantly trying to build new startup-y stuff at Match, and this is a product that we started working on late last year with the team in L.A., and it popped." [3]*

Tinder is yet to raise any money outside of IAC, and in June 2014 Yagan told TechCrunch that "IAC has been, is, and always will be the majority owner of Tinder." [5] But Tinder's status as a company isn't the only thing clouded in mystery. Mythology and facts conflict in the story of how the app was actually founded. Sources agree that the founders were originally working on Cardify—another customer loyalty app, also at Hatch Labs—when coder Joe Muñoz created an early version of Tinder during a weekend hackathon. As the team gradually shifted their focus from Cardify to the dating app they were calling Matchbox, they realized the name was too similar to IAC-owned Match.com. There's disagreement as to who originally came up with the name Tinder. Former marketing executive (and, by some accounts, co-founder) Whitney Wolfe claims she offered "Tinder" up as a spin on Rad's too-romantic suggestion of "Tender," [6] while TechCrunch says their anonymous sources were uncertain, but listed Badeen, Muñoz, and Wolfe as possibilities. [7] Though many details regarding Tinder are fuzzy, the numbers are not. As of December 2014, Tinder had been downloaded more than 40 million times with users swiping 1 billion profiles every day. [28] So how is it that Tinder has grown so rapidly in such a short amount of time?

Early Traction

Building Supply and Word of Mouth

As with any marketplace, liquidity is the key to success. Liquidity is the availability of buyers and sellers to participate in transactions. In a monetary marketplace there has to be enough supply for buyers and enough demand for sellers to participate. Without both sides of the market, there is no marketplace. This is often described as the chicken and egg problem–how do you get one side without the other? As we've seen in talks from Nilan Peiris at the GrowthHackers Conference in London [29], and in talks and articles from Sprig Founder Gagan Biyani and Platformed.info's Sangeet Choudary, the easiest way to jumpstart a marketplace is to grow the supply side first. [30] Building up the "seller" part of the market is easier to do and can be "hacked" by either paying for the supply or offering other incentives to participate. In the world of Tinder, there are no true buyers and sellers, but in many dating and similar ecosystems the "supply" of women on a platform is what triggers the participation of men. It's the same principle behind "Ladies' Night" promotions at your local bars. Seed the marketplace with supply and buyers come to participate. This works in reverse of course, but is typically done in this fashion. Tinder knew this and supply-hacked the dating app with women first, focusing on sorority girls as the early adopters. As more women joined the platform, men were eager to download it and see who was available nearby for dates. The move was brilliant: millennials are digitally savvy and mobile first, sororities offer large ecosystems where word of mouth can spread one-to-many, and the connections between friends and across the greek system in general make word of mouth more contagious. The combination of supply seeding and word of mouth was like a spark on dry kindling. As Muñoz told Businessweek's Nick Summers:

> *"We sent [Wolfe] all over the country. ... Her pitch was pretty genius. She would go to chapters of her sorority, do her presentation, and have all the girls at the meetings install the app. Then she'd go to the corresponding brother fraternity—they'd open the app and see all these cute girls they knew." [9]*

When Wolfe returned from her trip, Muñoz says Tinder had grown from fewer than 5,000 to almost 15,000. "At that point," he says, "I thought the avalanche had started." [9] The importance of this early supply-side seeding and word of mouth growth through collegiate greek networks cannot be understated, as it helped the unknown app reach the critical mass necessary for the network effect to take hold. Word of mouth continues to be an important growth factor for Tinder. Reality TV producer and aspiring comic Jamie Parks—who met her boyfriend of a year using the app—says she started using Tinder because all her friends were doing it. It wasn't long before she "became addicted," on occasion leaving the bar to "go home, lay in bed, eat and Tinder, like it was an activity." [10] Tomas Chamorro-Premuzic, University College London business psychology professor and VP of research and innovation at Hogan Assessment Systems, affirms, "whereas it is still somewhat embarrassing to confess to using EHarmony or Match.com, Tinderers are proud to demo the app at a dinner party." [8] Unlike other traditional online dating, Tinder is more socially acceptable to talk about, show off and use in the presence of friends. Whereas EHarmony is used by yourself and in private, Tinder users are more likely to share their activity on the service with their friends.

The Network Effect

With networks like Tinder (along with Facebook, LinkedIn, Instagram, and others), the size of the user base is always critical to success. Yet with Tinder it was perhaps even more important—since the app is location-based, it's of very little use without a sufficient quantity of potential matches. In a town with only 100 or so users, the fun would last one or two sessions at most before potential matches had been exhausted. After all, no matter how fun or engaging the UX, a dating site without potential matches isn't very useful. This is where the collegiate greek system played a pivotal, dual role in growth. Not only was it a rich group of target users to effectively seed supply from, it also had existing dense networks to increase the number of people on the platform in one area quickly. After a couple of sororities started using the app, the word of mouth between the sorority and fraternity houses of that campus would take over, instantaneously increasing the availability of potential matches for users in that area. We've talked before about how constraints to the size of the network helped companies like Facebook, Uber and Belly create liquidity in their network. Tinder used the same strategy, but rather than setting their sites on geographic areas (such as cities in Uber's case) they used the Greek system to both fuel supply and drive network density. Once Tinder had gained a sufficient user base thanks to word of mouth, adoption began to snowball thanks to the network effect—the more users Tinder got, the more valuable it became, and so even more people joined.

The User Experience and Dating 3.0

We've talked a lot about the critical role word of mouth played in Tinder's early growth, but what was it about Tinder that sparked the surge? Beyond being a mobile, location-based dating app, Tinder innovated on and leveraged some core truths about user experience and psychology to make the app addictive and one worth talking about. After all, a mobile dating app on its own doesn't create this much excitement–the way Tinder is built has everything to do with how it caught fire. Here we take a look at some of those key differences and innovations that make Tinder memorable, addictive and worth sharing.

The User Experience

On the surface, the big difference between Tinder and other mobile apps is how you navigate through potential matches. Matches are presented like a virtual deck of cards that the user "swipes" through. This UX pattern has important implications for the user behavior. First, the experience of reviewing matches by swiping left to dismiss a match and right to confirm a match is satisfying and feels intuitive on a mobile device. It's easy to do with one hand, making it perfect for moving quickly through a large "deck" of potential matches. Second, by presenting match information on a card, there is more screen real estate available for larger pictures and more information. This type of visual real estate isn't feasible in a list format or on a small screen with lots of navigation options.

Gamification of Dating and Variable Rewards

Perhaps more importantly, however, is the variable rewards component of the platform. Because it is impossible to see who is next, the urge to swipe is powerful. What if that next card is your perfect match? Variable rewards is a powerful psychological concept used in gambling, and it works perfectly in Tinder as well. People keep swiping to see if they'll hit the match "jackpot" on the next swipe. To heighten this potential reward even further, there's the notion that some of the people you'll be presented with have actually swiped right on you. You don't know who exactly, but there is a high probability that someone you're swiping through at that very moment thinks you're attractive or interesting and has requested a match with you. Tomasz Chamorro-Premuzic argues in an article about the app for The Guardian that "Tinder is just the latest example for the sexualisation of urban gadgets: it is nomophobia, Facebook-porn and Candy Crush Saga all in one." [8] He goes on to claim that the hookup is merely pretext for many users, while the act of Tindering is as significant as the (potential) date itself. Jamie Parks' experience, as discussed above, seems to support that notion. After all, people used HotorNot.com for years to merely rate others without the payoff of potential hookups—that is, before it eventually pivoted toward a dating service. Affirming both the social and the gamified nature of Tinder, Wired's Issie Lapowsky explains, "It's not uncool to scroll through Tinder with friends, and your non-single friends are all dying to "play" for you. It may be the first dating technology that people in relationships actually wish they needed." [11] BetaBeat's Molly Mulshine describes the experience of "Bethany," who downloaded Tinder for curiosity's sake after hearing about it from a friend. For Bethany, Tinder was just another addition to her social media routine. Mulshine explains, "After dutifully checking Facebook, Twitter and Instagram, she'd start swiping. Soon, she was even Tindering at work." [10] Bethany claims to have loved the ego boost that came from being matched with an attractive guy and having him message her, explaining, "When I was on it, I felt a little voyeuristic, a little excited and different. You test the boundaries of what you can and cannot say. I didn't feel like myself." [10] In fact, Tinder might have designed a system too powerful. Whereas most dating platforms promise true love and an ultimate exit from the service, Tinder's value prop is driven off of seeing who's in the area right now that might be interested in you. Even after a successful match and subsequent dates, the app's gamified experience creates a strong urge to return and see what else is out there. It's the fear of missing out combined with variable rewards that makes it highly addictive.

Love at First Sight: The Psychology of Tinder

Bethany's experience is not uncommon. As Chamorro-Premuzic explains, Tinder enables users to fulfill some very basic evolutionary and social needs:

"Just like Facebook, Twitter or LinkedIn, Tinder enables people to get along, albeit in a somewhat infantile, sexual and superficial way. It also enables us to get ahead, nourishing our competitive instincts by testing and maximising our dating potential. And lastly, Tinder enables users to satisfy their intellectual curiosity: finding out not only about other people's interests and personality, but what they think of ours." [8]

Nevertheless, Chamorro-Premuzic goes on to argue that part of the appeal of Tinder is that it emulates the real dating world—in which people make snap judgements based on visual appearance and perception. In many ways, Tinder has an advantage over mainstream dating sites because it is much more realistic. Like making eye contact with someone from across the bar and deciding whether to go talk to them or not, in the real world, most people don't find out what a potential date's favorite book or restaurant is until after they've assessed physical attraction. This is by design, Rad, the CEO, told Fast Company [22]:

"We want to create experiences that emulate human behavior. What we do on Tinder is no different than what we already do," Rad says. "You see somebody. You start with their face. If you find a connection, you continue to understand, 'what are our common interests, our social groups?' You're trying to create validation. From there, you open a dialog. Where that goes is up to a person."

Dr. Helen Fisher, biological anthropologist at Rutgers University, agrees, explaining, "There's a reason they call it 'love at first sight,' not love at first conversation, first smell or first joke." [10] She goes on to point out that, in many ways, Tinder may be a more efficient place to find a match than a bar:

"In New York, when you walk into a bar, there's no response. The other people there don't know you've walked in. You don't know whether they're looking for a date. They might all be there with wives who happen to be in the other room." [10]

When potential matches are presented on Tinder, by contrast, it's generally safe for users to make a handful of assumptions. For starters, that the person is single and open to the idea of meeting someone.

Softening the Blow of Rejection: Double Opt-In

Thanks to the app's double opt-in feature, the fear of rejection is also significantly lowered. As Lapowsky points out:

> *"Sites like OKCupid and Match.com have never been able to hack the rejection problem. They haven't simplified the process much, either, still prompting users to fill out those long and antiquated dating surveys. The process is a drag. Rejection is disappointing. And the fact that you're doing it anyway only plays into the lonely stereotype that the online dating industry has had such a tough time shrugging off." [11]*

Horror stories from traditional online dating sites abound, many of which stem from the fact that men outnumber women, and women are often inundated with canned pick-up lines from men they would never consider going out with. This says nothing of the nerve required to approach a physical human person, which Tinder also does away with. Though there's still plenty of terrible pick up lines and solicitations, and a risk of rejection after a match, the bar is lowered tremendously since users know their matches also swiped right for them. Tinder doesn't pose the same challenge of a site like OKCupid, where women's inboxes get cluttered with unwanted pick up lines and solicitations. Removing this slog makes Tinder more enjoyable, and the ability to unmatch unwanted matches gives the user control over who talks to them and when.

Maximum Potential Matches with Minimal Effort

Add to all this the fact that people are generally time-deprived and it's clear why many people perceive a dating tool that exposes them to hundreds of potential matches in a relatively short amount of time as a welcome improvement. Tinder user "Nick" explains:

> *"You wouldn't believe how many interesting women are on there. Wildly successful, totally beautiful women just waiting for somebody to ask them out. I've been out with Brazilian event planners who are into capoeira, writers, comedians who deal drugs—any combination of people." [10]*

In fact, Nick sees Tinder as "the end of online dating" [10] thanks in large part to its relatively painless signup and onboarding process. Through Facebook platform integration, identity is verified and photos are readily available. Rather than filling out a questionnaire that's several pages long, new users write a simple tagline. Once they're in, they can begin looking through potential matches instantly, and the UX couldn't be simpler—swipe left for no, swipe right for yes. New users are able to go from App store to engagement with the Tinder app in a matter of minutes. Because users don't have to create profiles, there is simultaneously less work required of new users, as well as more opportunities for extracting value from the service via conversation between matches. This ease of account creation does lead to Tinder's large bot problem, which we'll tackle later on.

Externalizing the App with New Extensions

Matchmaker

In June of 2013, Tinder released a feature called Matchmaker designed to allow users to introduce two friends—whether for romantic or other purposes. Once introduced those friends could then chat within the app. This seemingly simple feature opened up new growth opportunities for Tinder. Prior to Matchmaker, users of Tinder could only find matches for themselves. This restriction limited the number of Tinder users to (presumably) single people looking for dates. With the launch of Matchmaker, however, Tinder made the application accessible to those not in the dating pool: married people or those in committed relationships. By playing matchmaker, the company created a new use case attractive to users who couldn't justify using the app as it existed previously. Now, committed people who wanted to see what Tinder was all about had a feature set that made the application relevant to them and gave them a way to connect friends to other friends via Tinder.

Lists

Then in November of 2013, Tinder launched Lists, a feature that TechCrunch editor Alexa Tsotsis describes as "the first product iteration towards a 'for all' use case." [13] Lists allow users to sort matches into groups of their choosing—for example, "Paris friends" or "people who like brunch." The update also included support for 24 new languages. Exemplifying the app's shift toward a broader use case, Rad explained to Tsotsis that Tinder is working on a feature that automatically creates dynamic lists using the app's relevancy algorithm, user preferences, location, and interests.

Moments

Debuted in June of 2014, the Snapchat-meets-Instagram feature entitled Moments allows users to share edited, ephemeral photos with all of their matches. The new feature not only changes how people use Tinder, it also acts as a re-engagement and retention mechanism for users. Moments allows users the ability to interact with matches in a new way but also re-engage old matches who may have forgotten about them—reigniting old conversations. Of Moments, Rad asserts, "It's about sharing these moments, and just because you match, doesn't mean you need to date that person; you could match with a friend who you want to share a moment with." [5] Users simply take a photo using the app, and the photo is available for matches to view for the next 24 hours. As is standard on the app, matches can swipe right for "like" and left for "nope" on Moments, and users can begin chatting with matches who liked the photo. Users also have the ability to opt-out of seeing their matches' moments. Along with Moments, Tinder added the ability for users to turn off discover mode, allowing them to still chat with existing matches while opting-out of being paired with new matches. Furthermore, Rad alluded to a feature that will be part of the app's next release that will "solidify that Tinder is not just about dating." [5]

International Growth

After impressive growth in the US, the July 2013 launch of Tinder on Android represented a push for international growth. As Mateen explained at the time:

> *"We have been experiencing an unbelievable growth trajectory in the U.S., and have managed to reach a significant chunk of iPhone users within our target market. As we shift our focus to international growth, it only makes sense to launch Tinder for Android, which owns nearly 70% of the smartphone market overseas."* [23]

By November of 2013, Tinder's largest international markets were Brazil and the United Kingdom, each of which was growing at around 2% per day and had added over a million users each in the previous two months alone. According to Rad, once the company sees sustained organic adoption of Tinder in a new market, they proceed to augment that growth with the help of "borderline celebrities" who have large networks of influence. Essentially the company would reach out to power users on social networks to get them on the site and promoting their presence on it. Minor celebrities from Miss America to Olympic athletes have all been quoted as using the app in the press, which drives buzz and additional user growth. [30] This has been the company's strategy in the US, and they've managed to successfully replicate it in international markets as well. In Turkey, Tinder also briefly experimented with Facebook ads, but they found that growth stagnated at around 25,000 users and, as Mateen says, "The quality of users was completely different. The growth there was horrendous compared to anywhere else." [22] Yet after implementing their established "borderline celebrity" method, growth in Turkey picked up as well. According to App Annie, as of February 2015, Tinder was ranked among the top 100 overall Android apps in 23 countries and among the top 100 iOS apps in 44 countries. Furthermore, among Android Lifestyle apps, Tinder ranked in the top 100 for 62 countries, the top 10 for 41 countries, and the top 5 for 35 countries. Among iOS Lifestyle apps, Tinder ranked among the top 100 for 139 countries, the top 10 for 82 countries, and the top 5 for 56 countries. Tinder was the #1 Android Lifestyle app in Belgium, the UK, Switzerland, France, the United States, Hungary, Chile, and the Philippines, and the #1 iOS Lifestyle app in Latvia, Malta, Belgium, Brazil, Lithuania, Iceland, Estonia, Sweden, and Finland.

Monetization

Rad assured Tsotsis in 2013, "We would never add a paywall to the core value, we want that to always remain free." [13] However, the company has considered several potential means of monetization, including in-app purchases [12] such as charging people to back swipe in case they accidentally swiped left [13] (which the company launched on March 2, 2015) or offering the option of Facebook-style gifts like a dozen virtual roses.[1] The co-founders did assert in early 2013 that they were "confident monetization won't come in the form of ads." [1] Nevertheless, in January 2014, Charlie Dewitte of Advancers.org shared the following ad campaign, in which Tinder users were matched with characters from The Mindy Project:

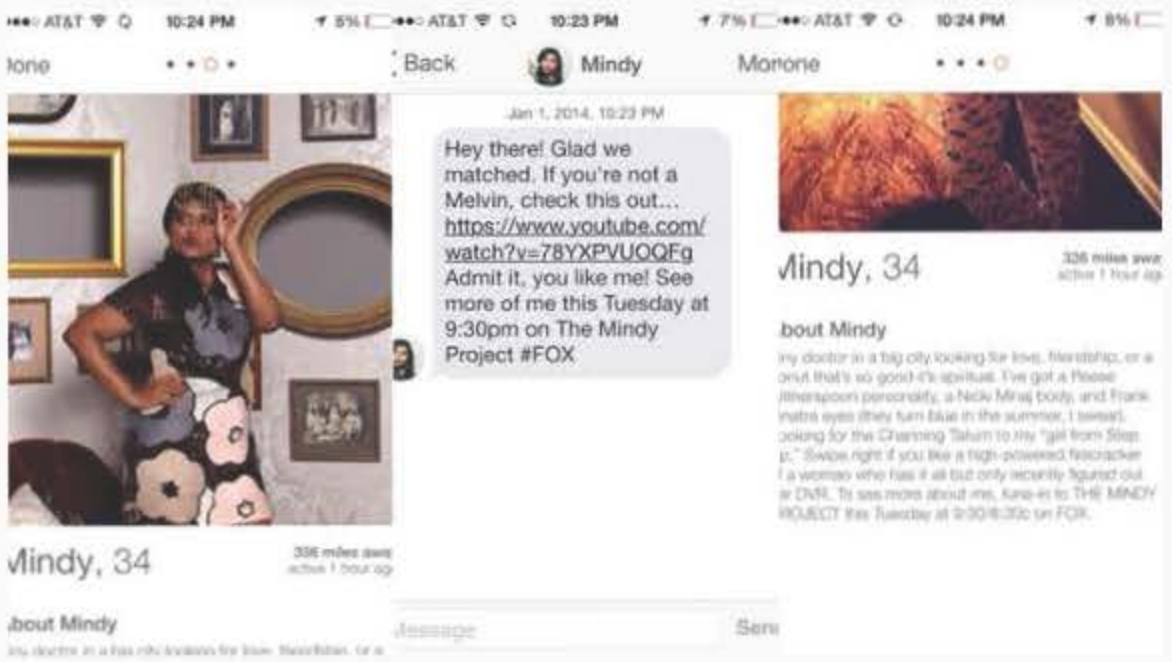


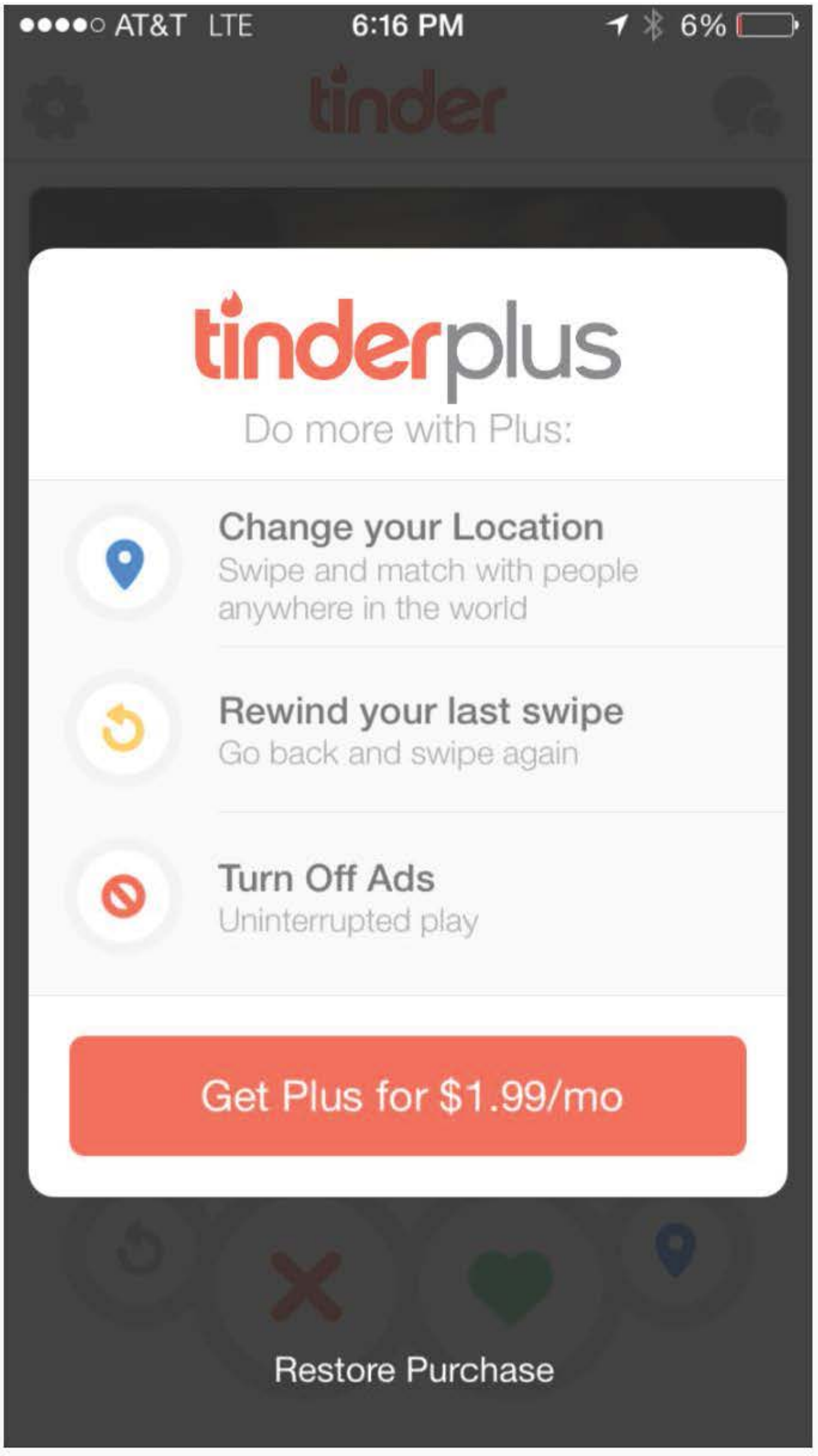
Image via Advancers.org [14]

However, contrary to Rad's claims in 2013 that Tinder will always be free, the company today, March 2, 2015, announced the launch of TinderPlus [31], a paid plan that ranges in price depending on your age, location and perhaps gender. For most users, the service is $9.99 per month and for those over 30, it's $19.99 per month. Like everything with Tinder, there is some murkiness in just how this pricing model works. The company told Quartz [32]:

"Lots of products offer differentiated price tiers by age like Spotify does for students, for example. Tinder is no different; during our testing we've learned, not surprisingly, that younger users are just as excited about TinderPlus, but are more budget constrained, and need a lower price to pull the trigger."

However, the product itself is straightforward. The service gives users the ability to:

- Rewind to the previous person you swiped left on. (This is one of the most requested features from Tinder users.)
- Passport which lets users look for matches anywhere in the world, instead of just being constrained to their current geographic location.
- No ads. Which alludes to the fact that more ads will be coming for the free service, likely in the form of native ads like the Mindy Project example above.



Images via TechCrunch

Tinder as a Channel

With so much growth and hype, it's not surprising that companies have tried to take advantage of Tinder as a growth platform for their own products through the creation of Tinder bots and fake profiles.

Fake Tinder Profiles

In July of 2013, security firm Symantec reported adult webcam spam on the Tinder platform. When matched with a spam account, users would be invited to an adult webcam session on an external website.

would be invited to an adult webcam session on an external website. Once on the site, users would be asked to input a credit card in order to verify their age, though the fine print showed that they'd be charged if they didn't cancel in time. [17]

Image via Symantec [17]

Since Symantec's original report, Tinder has made an effort to reduce spam by adding the ability to report suspicious accounts. Nevertheless, Tinder bots have been able to continue to scam users. [17] In April of 2014, TechCrunch's Sarah Perez reported spambots using the same kinds of scripted chats and external links to attempt to get users to download mobile apps like Castle Clash. [17]

Image via Symantec [17]

In addition to apps and webcam sites, the newest iterations of Tinder spambots are fake prostitution profiles with provocative photos and text overlay incorporating terms used in online prostitution ads as well as a URL where users can supposedly connect with them.

Image via Symantec[17] When users visit the URLs on prostitution profiles, however, they are typically redirected to an explicit personals website for casual dating and hookups. Including prostitution terms, URLs, and prices in text overlay rather than the designated bio section allows bots to evade Tinder's efforts to seek out spam. Whether adult webcam, app, or personal site, Tinder spambots are all part of affiliate programs, and the spammers receive compensation for converting unsuspecting Tinder users into leads. According to Symantec:

> *"While we do not have insight into the conversion of leads and premium memberships, we do have some statistics about click rates for some campaigns. For instance, from the end of January 2014 until mid-April 2014, a campaign associated with a site called blamcams resulted in nearly half a million clicks across seven URLs. Depending on the offers given by the affiliate program and the number of successful conversions of leads, this particular spammer likely earned quite a bit of money." [17]*

What's Next for Tinder?

With a premium version launching today, March 2, 2015, it remains to be seen whether Tinder can keep its torrid growth going. The novel user experience of Tinder has been replicated in every type of application possible, and the ever-fickle millennial audience can tire of the site at any moment. While IAC is confident that a paid version of

the site at any moment. While IAC is confident that a paid version of the app won't slow growth down, there is little question that "free" always grows faster in the mobile space. Because of the company's unique situation, as a subsidiary to IAC, it doesn't face the pressure of venture investment and could easily become just another mature asset in IAC's portfolio. Only time will tell, but because IAC is a public company, we'll be able to get at least some read into the health of Tinder at every earnings call. Co-authored by Everette Taylor. Special thanks to Ross Simmonds for his early work on Tinder's content and PR strategy.

Written by  **Morgan Brown**

Post a Comment

Stuart McKeown
over 3 years ago #

Awesome case study Morgan!

I love the grassroots work they did with the Sororities etc, most people don't realise the work that goes on behind the scenes to get traction - they only see it when things start to blow up (by which point you've done a good portion of your job well) :)

▲ 8 REPLY

Morgan Brown
over 3 years ago #

Thanks @thegyppo -- totally agree that it's that kind of "hustle stage" work that never gets any credit, but is ultimately the key to making these things take off in the first place.

People love to tell idealized launch stories, but often times what what really happened was a lot of scrappy tactics to get initial traction.

▲ 3 REPLY

Timothy Wu
over 3 years ago #

Great post once again guys! Interesting that they kept to the grass roots strategies, even with direct backing from IAC.

▲ 1

Parag Patel
over 3 years ago #

This some of the best content out there. Keep it up Morgan.

"Softening the Blow of Rejection", I think this is key as it keeps users engaged. Also the integration with Facebook, which helps not only automatically load data but helps with the social proofing.

▲ 7 REPLY

Morgan Brown
over 3 years ago #

Thanks @paragpatelone, I appreciate it! I agree, Facebook helps them grab a lot of data, make it easy to sign in, and create that social proof.

What will be interesting is that, more and more, younger people don't like to use Facebook Connect to sign into services like this. We'll see how companies respond to this shift going forward.

▲ 3 REPLY

Sean Ellis
over 3 years ago #

Fun read and excellent analysis Morgan! One part of the core product functionality really stood out to me in this growth study. I think the variable reward piece is huge. The fact that there is always a surprise with every swipe and that some of those people will also turn out to be matches. I can see how that would be very addicting.

I also find it fascinating that they were able to address the key gripes of other dating services (women getting overwhelmed and men getting rejected). By understanding the gripes and addressing them they were able to create an opening in the crowded dating app space. It reminds me a lot of the last growth study on Stripe https://growthhackers.com/companies/how-stripe-marketed-to-developers-so-effectively/ , where developers complained that PayPal and Google Checkout were forcing their way into the relationship with the customer. I wonder how many other seemingly crowded spaces could be disrupted by just understanding customer gripes.

▲ 6 REPLY

Jackson Noel
over 3 years ago #

Wow. Fantastic read @morgan.

Orienting Tinder's UX around the pursuit for variable rewards changed online dating forever. I think there are many more niches in which this can be applied, even turning otherwise monotonous tasks into captivating experiences.

I put together some observations on how 5 products are leveraging variable rewards a couple weeks ago: http://appcues.com/academy/variable-rewards/

And then there's @NirEyal's work on the topic, which is of course, a *Must Read*: http://www.nirandfar.com/2012/03/want-to-hook-your-users-drive-them-crazy.html

▲ 5 REPLY

Dylan La Com
over 3 years ago #

This is great Morgan! It's amazing the impact a simplified user experience can have when done well and at the right time.

▲ 4 REPLY

Anuj Adhiya
over 3 years ago #

Variable rewards + understanding of psychology FTW!

Great read @morganb & @everette!

Pity I can't swipe right for this post :D

▲ 4 REPLY

Logan Stoneman
over 3 years ago #

Was thinking the same thing @anujadhiya :) Awesome job on this @morgan & @everette

▲ 4 REPLY

Morgan Brown
over 3 years ago #

Thanks @anujadhiya!

▲ 2 REPLY

SG

Simon Goldsmith
over 3 years ago #

There's another great hack in play here. One of the biggest issues online dating sites have is verifying photo uploads and making sure they are not explicit. By integrating with Facebook photos, they took out a huge chunk of the customer service element of a dating site.

▲ 4 REPLY

Dylan La Com
over 3 years ago #

That's really fascinating. thanks for sharing Simon!

▲ 2 REPLY

AL

Alexander Leizer
over 3 years ago #

Great case study Morgan.

You have covered all the bits and bytes of the app. I specially loved the psychological and the gamification analysys.
A great read no doubt :)

▲ 4 REPLY

Morgan Brown
over 3 years ago #

Thanks @alexander_leizer! The psychology is fascinating for sure.

▲ 4 REPLY

James Greig
over 3 years ago #

"Tinder is not a startup" — someone call Eric Ries!

▲ 3 REPLY

Logan Stoneman
over 3 years ago #

Definitely an awesome example of doing things that don't scale (i.e. using Greek life channels) to produce an initial growth engine in prime position to scale. Read this awesome essay by Paul Graham if you're not sure what I'm talking about - http://paulgraham.com/ds.html

Also, I'd love to hear the communities thoughts on Tinder's variable pricing strategy implemented with TinderPlus. They're charging different prices ($2.99-$19.99) dependent on the country, age, & sex of the user. Here's the source, provided by @morgan - http://techcrunch.com/2015/03/02/new-tinder-charges-whatever-it-wants/#jMsQZL:KKGQ

Have you seen other companies use a similar pricing structure for app and find success through this?

▲ 3 REPLY

Morgan Brown
over 3 years ago #

Hey Logan, I agree. The stuff that doesn't scale is what gets things off the ground.

I really liked how the Greek system provided Tinder both supply of eligible singles for the app but also acted as a dense network to spread the app via word of mouth. Two birds, one stone.

As far as variable pricing, Tinder cites Spotify's pricing tiers for students vs. other users as one example, but it is definitely a unique approach to app pricing.

▲ 2 REPLY

Bryan Hackett
over 3 years ago #

Hey Morgan!

Here is a piece that I've been working on that dives into the Greek system aspect of their marketing strategy.

https://parantap.com/tinders-first-year-growth-strategy/

Having not been in a fraternity myself, it was really interesting to see how they leveraged the relationships. It includes some visuals and primary source material as well.

Cheers,

Bryan

▲ 3

Sean Ellis
over 3 years ago #

Shocking that Match.com killed their mobile "innovation sandbox" Hatch Labs, considering that it "hatched" Tinder. You'd think that the value created from Tinder would fund that lab for decades.

▲ 3 REPLY

gonzalo arzuaga
over 3 years ago #

Really insightful post Morgan! Well done, thanks.

▲ 2 REPLY

Felipe Betancourt
over 3 years ago #

Morgan, amazing article!! I just bought your Startup Growth Engines: Case studies. Thank you so much for the knowledge and the inputs to the community. Sharing is caring!!

▲ 2 REPLY

JJ

Julian James
over 3 years ago #

Easy answer, the app tapped in to three basic human obsessions:

- Sex
- Ego
- Speed

All three come as standard.

▲ 1 REPLY

DL

Daniel Lee
over 3 years ago #

I gave up Tinder since it became a site for teenagers mostly.. The same thing with other popular sources (match.com, OkCupid, etc) The only reasonable sites are the local ones (since I moved to Austin I use https://kovla.com/datings/us/austin) which can really increase one's chances to meet someone real.

▲ 1 REPLY

Michael Ash
over 3 years ago #

Absolutely brilliant case study. It's unfortunate that Match.com scrapped "innovation sandbox."

▲ 1 REPLY

Lee Traupel
over 3 years ago #

Wonderful write up Morgan and Everette!! Thanks! Sex continues to sell. But not to take anything away from their stellar product marketing, as you both underscored.

▲ 1 REPLY

Nay Min
over 3 years ago #

This is great, to make GH on the next level :)

▲ 1 REPLY

jonah engler
over 3 years ago #

I had a little chuckle when I read 'Tinder' on this site

▲ 1 REPLY

GK

Gabe Kwakyi
over 3 years ago #

One well researched article, thanks for putting this together and for sharing Morgan!

▲ 1 REPLY

JP

JohnPole P'ole
almost 3 years ago #

Cool!

▲ 1 REPLY

AK

Andrea Kopitz
over 2 years ago #

This is a really really great article. Definitely got me thinking about how the applications we build attempt to 'emulate', and sometimes replace, our real-world experiences— And how, if that's how Tinder was built (and how it succeeded), how sad it is that people become so dispensable on the platform. I guess it's sad to think that's modeled after our actual reality and not just our secret desires.

▲ 1 REPLY

BM

Brian McDowell
almost 2 years ago #

Very interesting case study! Love the insights

▲ 1 REPLY

Exhibit G

TINDER AND MARKETING: WHAT COMPANIES CAN LEARN FROM THE DATING APP'S UI

Posted by Jonathan Quah | J, Jul, 2017 | FMCG, Startups | 0 | ★★★★★

Social interactions were re-invented with the creation of Facebook in 2004. In 2012, another app came along that changed the operations of romance – Tinder.

Tinder was originally incubated in Hatch Labs, an incubator i
New York City, and has grown tremendously since its launch.

In 2014, the dating app boasted to register 10 million daily active users that generate up to a billion swipes per day.

Moreover, as of 2017, the app is valued at about US$3 billion.

So how did the Tinder user base proliferate so quickly? A key factor was its intuitive User Interface (UI) – now called the 'Tinder sort' – that users used to run through potential suitors.

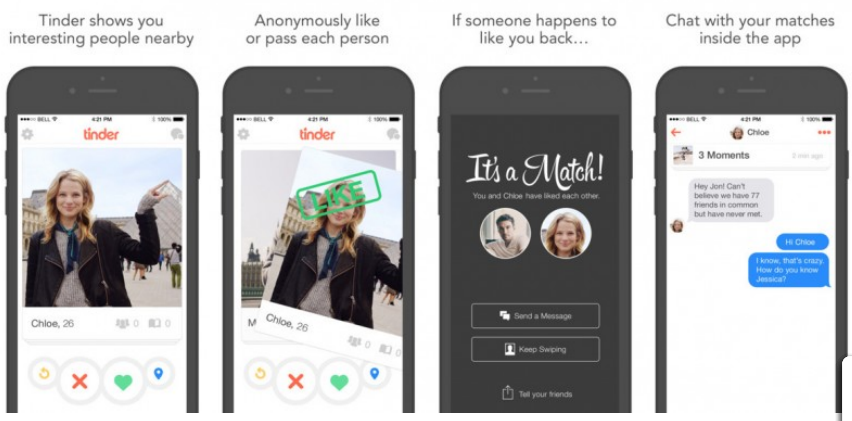
In this article, we will analyze Tinder's user interface and copycats in other industries – predominantly fashion and e-commerce. In addition, we'll look at the dating app's implications on the Asian demographic and how corporations can learn from its prolific spread.

WHAT MADE TINDER DIFFERENT

During Tinder's rise as one of the top dating apps, it was met with close competition – Skout from San Francisco, USA and Plenty of Fish from Vancouver, Canada. What propelled it to the forefront of digital romance?

Tinder featured a UI that was different.

After logging in, a user on Tinder is presented with a stack of photos of romantic interests the app finds around the area. The app gives him or her a simple instruction – Swipe Left for No, Swipe Right for Yes.



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Should two users swipe each other, Tinder immediately notifies both with a message 'It's a Match!' and they can finally begin sending texts to one another.

Now known as the Tinder sort, Tinder's UI simplified the selection process of finding potential suitors to a binary option – swipe left or right.

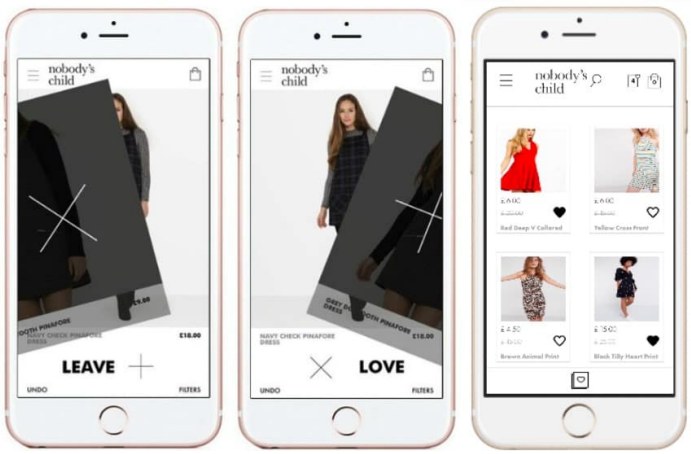
Unlike other dating apps that require the user to plough through cumbersome lists, Tinder required only an input that registered as a 'Yes' or 'No' from the user.

Additionally, Tinder had other key factors that supplemented the Tinder sort. For example, users could log into the app via their Facebook accounts with a simple click of a mouse. Users were also only notified of matches, effectively removing the fear of rejection.

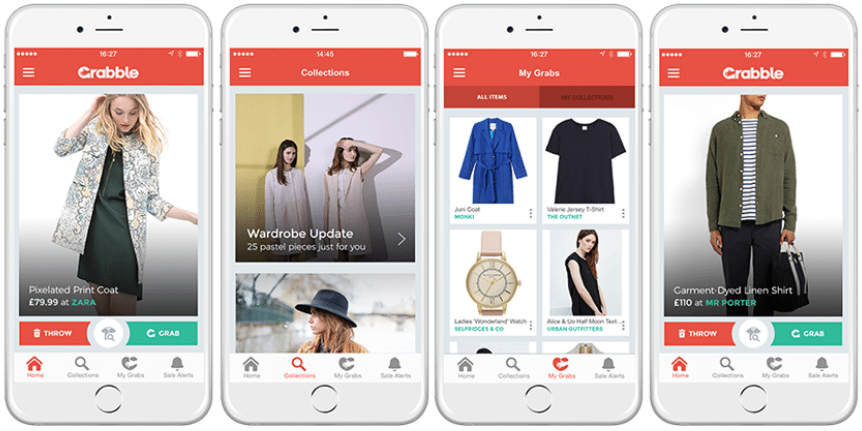
TINDER AND E-COMMERCE

Since the inception of Tinder to the Apple's App Store and the Google Play store, the Tinder sort user interface has been adopted by various e-commerce startups.

The first was Bijou Commerce, a mobile commerce startup that aims to provide a modular platform. This platform aims to integrate seamlessly with the merchandiser's IT infrastructure while allowing real-time stock visibility and the latest in-store technologies.



Another UK-based startup Grabble, a clothes shopping app has also adopted the Tinder-like user interface. The app uses swipes for 'yes' and adds clothes to the user's shopping cart. The e-commerce startup raised **US$1.8 million from angel investors in 2015** to expand into the US and Asia.



In 2016 it estimated its user base to be 375,000-strong with 100,000 monthly active users in 2016. Moreover, the app has been named one of the Top 100 Disruptive Brands by Marketing Week in 2016.

TINDER, ITS UI AND ASIA

In Asia, the proliferation of smartphone use and the availability of mobile data will increase the size of th reachable market for Tinder as well as e-commerc

applications. The mobile data use in Southeast Asia is expected to grow more than eightfold from 2013 to 2019. Moreover, the dating pool is to hit 420 million by 2025.

While Tinder's main use will still be for finding love online, its spread into Asia will mean greater exposure for the Tinder sort interface to new users. We can expect to see **startups adopting the interface to provide solutions in other markets and industries**. For example, while an inanimate product is unable to 'swipe right' for a user, we can think of bridging gaps between several parties. Possibilities include employer-potential employee or customer-service provider.

In addition, what we can learn from **Tinder's rapid user generation and sustained retention** is as straightforward as its **binary user interface**; that is to **value simplicity over intricacy**. Larger companies would do well **generate and validate solutions from basic levels such as re-imagining customer interaction**. The solution might not require complex product designs or marketing strategies. Sometimes, all that is required is a flick of the thumb for a revolutionary change in a company's product, sales and revenue figures.

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ABOUT THE AUTHOR

Jonathan Quah

Jonathan is an undergraduate at the National University of Singapore with a passion for startups both local and abroad. Beyond his classes, he enjoys reading and writing content on the latest developments in various startup ecosystems for Innovation Is Everywhere.

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